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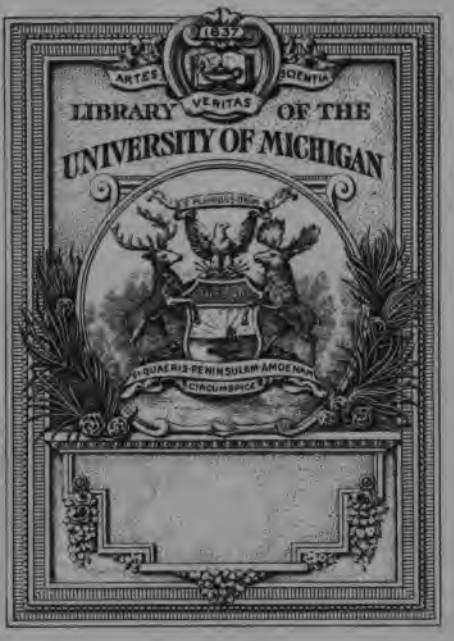
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THE

MEDICO-CHIRURGICAL

REVIEW,

AND

JOURNAL

OF

PRACTICAL MEDICINE.

(NEW SERIES.)

VOLUME THIRTY-SIX,

[1st of OCTOBER, 1841, to 31st of MARCH,]

1842.

VOL. XVI. of DECENNIAL SERIES.

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BY JAMES JOHNSON, M.D.

PHYSICIAN EXTRAORDINARY TO THE LATE KING,

AND

HENRY JAMES JOHNSON, Esq.

LECTURER ON ANATOMY AT THE SCHOOL OF ST. GEORGE'S HOSPITAL IN KINN STREET.

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THE

Medico-Chirurgical Review,

No. LXXI.

[No. 31 OF A DECENNIAL SERIES.]

OCTOBER 1, 1841, TO JANUARY 1, 1842.

MEDICO-CHIRURGICAL TRANSACTIONS, PUBLISHED BY THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON. Second Series. Volume the Sixth. Octavo, pp. 253. Longman and Co., London, 1841.

THE present volume is as interesting as the general run of its predecessors. And this is no mean praise, for the Medico-Chirurgical Transactions occupy *the* very first place in Medical periodical literature. The Profession in this country has reason to be proud of them, for a happier mixture of the abstract and the practical—of the curious and the useful, has never, we think, been published. It might be expected that, reflecting, as these Transactions do, the medical character of Britain, their general tone would be practical. And such is really the case. Not a volume but contains much that will help us at the bed-side, in diagnosis or in treatment.

The table of contents presents us with the following bill of fare;—

1. Observations on the structure of the entozoa belonging to the genus cysticercus, by George Gulliver, F.R.S. F.Z.S. Assistant-surgeon to the Royal Regiment of Horse Guards;—2. Case of osseous union of a fracture of the neck of the femur within the capsule, by Walter Jones, Esq., Surgeon, Worcester;—3. Observations on vaccination and small-pox, more especially with reference to the theory of vaccine influence, and the relations subsisting between the cicatrix and the character of the consecutive variola, by George Gregory, M.D. Fellow of the Royal College of Physicians, and Physician of the Small-pox and Vaccination Hospital, St. Pancras;—4. On gouty concretions, with a new method of treatment, by Alexander Ure, Esq. M.D. A.M. Member of the Royal College of Surgeons, London;—5. History of a remarkable case of phlebitis, with observations, by Thomas H. Silvester, M.D, Consulting Physician to the South London Dispensary, &c.;—6. Cases of cancerous or malignant disease of the spinal column, with remarks, by Cæsar Hawkins, Esq. Surgeon to St. George's Hospital;—7. A case of slow pulse with fainting fits, which first came on two years after an injury of the neck from a fall, with observations, by T. H. Holberton, Hampton, Surgeon Extraordinary to the Queen Dowager;—8. Fourth memoir on some principles of pathology in

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These articles we shall take in succession.

I.—OBSERVATIONS ON THE STRUCTURE OF THE ENTOZOA BELONGING TO THE GENUS CYSTICERCUS. By *George Gulliver.*

We cannot present a full account of this paper, for which we refer our readers to the volume itself. The principal point in it is this. In a communication on certain oval corpuscles obtained from the genus cysticercus, read to the Zoological Society, by Mr. Gulliver, in March last, he drew attention to the fact that, if the white part near to the head of the entozoon be gently pressed, a little rather viscid fluid will escape, in which will be found a great number of oval corpuscles, presenting a beautiful microscopic object.

Mr. Gulliver's intention, now, is to shew the situation and extent which these bodies occupy in the worm, and their probable use in its generation; with an attempt to elucidate some other points in the structure of the parasite, hitherto imperfectly known.

Passing over the description of the oval corpuscles—of the bladder-like body, or caudal extremity of the worm and its containing cyst—and of the hooks or spines of the worm—we may notice Mr. Gulliver's hypothesis of the uses of the oval corpuscles. He thinks they are the ova of the cystecercus. "It will be difficult to entertain any other view of their nature when we recollect their heterogeneous structure, their regularity in size and shape, their aggregation together in the true body of the worm, and the abundance of carbonate of lime contained in their shells. I am not aware that any gemmæ or sporules have yet been found to possess

these characters; if, therefore, the oval corpuscles should be regarded as sporules, they must be sporules of a peculiar kind. As it is yet questionable how the corpuscles escape from the cyst, it will be necessary to institute a further examination of this part. I have not yet succeeded in detecting an aperture. But Dr. Knox has given an engraving of one instance in which the head and neck of the cysticercus cellulosæ was seen to project through a natural and well-defined opening in the cyst. With what facility the oval corpuscles may be disseminated will be understood, when it is recollected how prone they are to separate from the surface of the corium.

It is an interesting question whether the spherules of the caudal vesicle may not be considered as nuclei, which advance to the neck or body of the worm, and there become invested with cells, and so formed into the complete oval corpuscles.

Although the consideration of the basis of a methodical arrangement of the entozoa forms no part of the object of the present memoir, I may express my belief that an exact knowledge of the structure and arrangement of the claws of the cystoid family is likely to lead to an accurate discrimination of many genera and species hitherto but imperfectly characterized. Rudolphi, indeed, in the formation of his orders, availed himself of the characters afforded by the tentacles of the parasites; but although the importance of these parts was thus early appreciated, it does not appear to me that they have ever yet been described with sufficient accuracy.

It will be understood that the true body of the cysticercus is that part which, in compliance with custom, I have frequently called the neck; and that the globular portion of the hydatid is in reality the caudal or terminal vesicle."

II.—Case of Osseus Union of a Fracture of the Neck of the Femur within the Capsule. By *Walter Jones*, Esq.

The case was that of a man, more than 80 years of age, who slipped down about the middle of October, 1838. He had the symptoms of fracture of the neck of the femur, and a long splint, on the outside, was employed. He died about a year and a half afterwards of disease of the lungs, having been able to move about with a stick, with the limb shortened about an inch and a half, and the foot much everted.

Mr. Stanley says, in reference to the appearances found after death:—"The history of the case is clearly that of fracture of the neck of the femur; the appearances of the bone show that there has been a fracture which has re-united by an osseous medium, and the direction of the fracture is such as, in my opinion, can permit no doubt that it was confined to the portion of the neck of the bone covered by synovial membrane; consequently, that it was wholly within the capsule. The fracture extends through the basis of the head of the bone in the line of its junction with the neck. As in other cases of the same kind, great part of the neck of the bone has disappeared, and, in consequence, the head is proportionately nearer *to the trochanter* major and shaft of the bone; its re-

union has, in fact, taken place in part to the remaining portion of the neck, and in part to the shaft. This union is certainly osseous. In addition to the first maceration of the bone with its surrounding soft parts, it was subsequently immersed for several days in a strong solution of carbonate of potash, and one half of the bone has been boiled in water for three hours without the slightest yielding perceptible in the line of the fracture.

The specimen is preserved in the Museum of St. Bartholomew's Hospital."

An interesting case.

III.—OBSERVATIONS ON VACCINATION AND SMALL-POX, MORE ESPECIALLY WITH REFERENCE TO THE THEORY OF VACCINE INFLUENCE, AND THE RELATION SUBSISTING BETWEEN THE CICATRIX AND THE CHARACTER OF THE CONSECUTIVE VARIOLA. By *George Gregory*, M.D.

Our able friend tells us:—

The epidemic of 1838 ceased with the frosts of Christmas; and from January, 1839, to the end of September 1840, (a period of 21 months,) the metropolis was remarkably free from small-pox. The admissions into the Small-pox Hospital during the first three quarters of 1840 amounted only to 142, being at the rate of sixteen *per mensem*. In October 1840, a new epidemic began, and 46 patients were admitted in that month. In November the admissions were 64. In December, 75. From the 1st of January, 1841, to the present day, (Monday, January 25,) the admissions have been 93, being nearly at the rate of 4 *per diem*—the greatest number ever admitted in one month since the establishment of the hospital in 1746.

Among the 327 patients admitted in 1840, 11 had complaints not proving to be of a variolous nature. Of the remaining 316, 194 were wholly unprotected, of whom 87 died, or 45 out of every hundred! 120 had previously been vaccinated, of whom 8 died, being in the ratio of 7 per cent. only. Two were supposed to have previously undergone small-pox.

Of the 316 patients, 47 were under 5 years of age, of whom 28 died; 45 were between 5 and 15 years of age (inclusive,) of whom 9 died; 224 were adults, of whom 58 died. The total mortality was 95, or 30 per cent. on the gross admissions.

Dr. Gregory relates a case, and proceeds:—

"One hundred and twenty cases, I have said, of variola succeeding vaccination occurred at the hospital during the past year. My attention had long been directed to ascertain whether any, and what, relation subsisted between the number and character of the vaccine cicatrices, and the intensity of the consecutive variola; and I took this opportunity of investigating the subject. I found, by careful inspection of the arms of those who attended for vaccination, and for re-vaccination, that much caution was requisite in forming any conclusion regarding the original vaccination, by the appearance of the arms in after life. It must always be borne in mind, that the full measure of vaccine influence is received by each individual on the eighth day from insertion. If the disease be subsequently rendered mild, either by art or peculiarity of habit, the cicatrix will be [illegible] and fugitive. Even should the vesicle be then destroyed by caustic, or the

part cut out, and allowed to heal as a common sore, and no specific scar remain, still the individual would remain *vaccinated*. On the other hand, should the disease be aggravated by neglect or bad management, or a foul or inflammatory state of the child's blood, high secondary inflammation would be set up, and a large, wafery, or otherwise irregular cicatrix would form, which is permanent in after life. The amount of vaccine protection remains however in both instances *the same*, and the probable character of the consecutive variola receives no elucidation from inspection of the arm. The character of the cicatrix, then, depends more on the *accidental* or *secondary*, than it does on the *primary* or *specific* inflammation, and hence arises the small reliance which can be placed on it as a measure of vaccine protection.

Undoubtedly in the majority of cases wherein the cicatrixes are *numerous*, *normal*, and *well defined*, the consecutive variola is mild and varicelloid; again, where the consecutive disease proves severe, there the cicatrixes will be imperfectly seen, or altogether wanting. But instances of the converse of these propositions are so numerous as scarcely to be called *exceptions* to a rule. As the profession are probably not so familiar with these latter cases, I have ventured to submit two opposing series to the notice of the Society. The first shows that small-pox after vaccination often proves *severe* where the cicatrices are *normal*. The second points out that the lightest and most truly varicelloid eruptions coexist with *small* and *very imperfect* cicatrices." 19.

The two cases which follow bear out the assertion, and show that the cicatrix cannot be relied on as affording any certain test of the degree to which the constitution has imbibed an anti-variolous influence. Peculiarity of habit, similar to that which rendered certain persons patient of the variolous poison before the discovery of vaccination, and which now makes some patient under the venereal or mercurial poisons, and others irritable under the most minute quantities of those poisons, must probably be looked to as the best means of explaining the diversities in the aspect of consecutive variola. This is Dr. Gregory's opinion, and it seems very likely to be true.

Dr. G. next touches on the question, if the variolous and vaccine poisons are the same. After alluding to the affirmative conviction of Jenner, and the able experiments of Ceely, he sums up the evidence thus:—

The morbid secretions from the cow, which possess the singular properties of transplantation to the human frame, of exciting there a like disease, and subsequently of protecting the human body, to a certain extent, from the assaults of small-pox, may be produced in that animal in four modes.

1. They are generated, spontaneously in the cow, under certain circumstances of soil, season, and locality. Such diseased secretions are often met with in cows soon after parturition, in the spring season, and when feeding upon young grass. But they arise also spontaneously from other and less known causes, and the disorder spreads like other epizootic maladies. It was this form of vaccine disease which Jenner chiefly studied.

2. The very same malady, developing the very same morbid secretion, is often observed to spread *by contagion*:—that is, by the application of the diseased secretion, thus generated, to the teats of healthy cows, differently circumstanced, by the hands of the milker.

3. The same morbid secretion, possessed of the same qualities, may be and frequently has been generated in the teats of the cow by the application to them of the matter formed by the heel of the horse, when affected with the disorder called by farriers *The Grease*. This *greasy* matter may

also be transplanted to man directly, without the intervention of the cow, proving that the anti-variolous property does not depend on any peculiar change which the virus undergoes while passing through that animal.

4. The same morbid secretion may be excited artificially in the cow by applying to the teats, or the mucous surfaces of the vagina, vaccine lymph from the arms of a child, even though 20 years had elapsed since that lymph had been humanized or assimilated to the human constitution.

5. To these four modes of exciting that kind of morbid secretion in the cow, which we call Vaccinia, (one constitutional and three artificial,) the labours of Mr. Ceely have now added a fifth. He has shown that the very same object may be obtained by applying to the mucous surfaces of the cow the matter of human small-pox. The vessels of the part are thereby excited to the production of a fluid or humour, identical in all its properties with that which arises from a constitutional and febrile disturbance in the cow's system, from contagion, from the matter of *Grease*, or the long-humanized vaccine virus.

"When we consider," adds Dr. Gregory, "that five modes of producing this morbid secretion in the cow are now known to exist, it is not unreasonable to suppose that others may hereafter be discovered. In this state of our knowledge, then, surely we cannot be justified in assuming the fifth and the last discovered of the whole, as the most important, and as affording the true clue to the mystery of vaccine protection. We should reflect that Mr. Ceely's experiments have entirely set aside Dr. Jenner's notion that vaccinia was the original or primitive poison, which time and fortuitous circumstances had aggravated into the malignant or secondary form, which we call small-pox. They have proved (if indeed they have *any* bearing on the intimate nature of these poisons) that small-pox is the *primary*, and cow-pox the *secondary* form. But when we further reflect on the absence of a contagious principle in Vaccinia, and the remarkable fact that febrile disturbance is not essential to its perfect development, we shall probably be nearer the truth in saying that the vaccine is a poison *sui generis*; that its relation to variola is still hypothetical; that the real and intimate nature of the protection which it affords is still unknown to us; and that a thorough acquaintance with its anti-variolous powers must be derived, not from analogy, but from an extended and careful observation of facts, continued through a long series of years.

It is worthy of record, that among the 120 cases of variola occurring at the hospital in 1840, subsequent to vaccination, eleven only were under 16 years of age. The youngest person admitted under such circumstances was of the age of 7. The first occasion on which I have ever known a child under 5 years admitted with small-pox after vaccination, occurred last week." 28.

Dr. Gregory adds the case. This, like all Dr. Gregory's communications on the subject, is extremely valuable.

IV.—On Gouty Concretions, with a New Method of Treatment. By *Alexander Ure*, Esq. M. D.

Mr. Ure observes that it is well known that persons afflicted with gout are liable to the effusion of a white liquid into many of the internal cavities of the body. This liquid consists of serum and urate of soda, with sometimes a little urate of lime. In the course of time, the serous particles become absorbed, leaving a kind of soft clayey residuum, which afterwards

becomes hard and friable; thus forming the so-called tophaceous concretions or chalk-stones.

Gout may be regarded as a specific inflammation which seems to affect the serous and fibrous structures. Accordingly, we find that the above depositions most generally take place in the cavities of joints, in the bursæ muscosæ, in the ligaments, neighbouring aponeuroses and cellular membrane, and in the periosteum. They have even sometimes been met with between the cutis and cuticle.

The effusion from which these concretions are derived, occurs not only during fits of gout, but likewise in the intervals; and as the extremities of the body, particularly the hands and feet, are the principal seat of the disease, it is there that the greatest accumulations take place. They occasionally, however, make their appearance about the articulations of the jaw and spine.

Although this process is usually preceded and accompanied by inflammation, yet there is no extravasation of coagulable lymph, no new covering or cyst surrounding the concrete matter,—like pus in an abscess. A circumstance which distinctly proves that the inflammation is not of a phlegmonous character, and that the non-absorption of the deposit is to be ascribed to physical causes.

Gouty tophus is not confined to man; it occurs also, though more rarely, in animals, when placed in a similar condition, that is, when fed for a length of time upon a highly azotised diet. Aldrovandi has detailed its effects in birds of prey, more especially in hawks. Gout-stones sometimes attain a very great size. Now, says Mr. Ure,

"Since one part of urate of soda requires about 4000 parts of water to dissolve it, it may be reasonably assumed that the refractory nature of the above deposits is due to their very sparing solubility in the fluids with which they come in contact. It therefore occurred to me as a consequence deduced from some researches into the composition of the renal secretion in certain of the lower animals, that some means might be devised to enable us through the medium of the circulation so to modify that secretion in man as to supersede, for a time, the urates altogether.

The graminivorous animals, as the horse and cow, secrete from the kidneys a peculiar acid (the hippuric.) It is present in their urine combined with soda. Now, the hippurate of soda, which may be considered the analogue of the basis of gout-stones, is an exceedingly soluble salt, (requiring only two parts of water, at 60° F., to dissolve one,) as are likewise the hippurates of potash, of ammonia, and of lime. Hence it appeared probable that were we to adopt such therapeutic measures as would determine the human kidney to secrete this acid instead of the uric, we should thereby, in all likelihood, control and prevent the deposition in question.

I ascertained in the course of last summer, by repeated experiments, made first of all upon myself, and afterwards upon individuals labouring under gout, that the above substitution could be perfectly accomplished without the slightest risk of affecting the general health, or of irritating the urinary organs. The substance employed for this purpose was the benzoic acid. If an hour after a meal, a scruple of this acid be taken into the stomach, in the course of a couple of hours subsequently the urine voided, amounting to five or six ounces, will be found, on adding a small quantity of muriatic acid, to yield a copious precipitate of beautiful rose-pink acicular crystals, which weigh, after being allowed to settle for a day, about fifteen grains. This quantity is by atomic computation equiva-

lent to little more than one-half of the benzoic acid expended, so that the remainder must have made its escape by some other emunctory, probably the skin.

The above crystals, when examined by the microscope, display the characteristic form of the hippuric acid, namely, a four-sided prism, with a dihedral summit."

"It may be observed, that no trace whatever of uric acid, or of any of its salts, or of benzoic acid, could be discovered in the above urine.

A nearly analogous result is obtained when benzoate of ammonia or of potash is administered; and, under particular circumstances, the exhibition of one or other will be found preferable to the simple acid; either in the neutral state, or with an excess of base, when there is a disposition to accescence in the *primæ viæ*; apportioning the dose, in every instance, to the condition of the urinary secretion, previously ascertained by analysis.

By this singular interchange of elements, capable of being effected only by the aid of vital chemistry, we have an organic acid, containing 8 atoms of azote and 10 of carbon, replaced by one containing no less than 18 of carbon and only 2 of azote, and that even in what various eminent pathologists regard as a highly azotised state of the system.

It is obvious that this new plan of treatment, and which does not interfere with other remedial means, must be steadily persevered in for a considerable length of time, ere any adequate benefit can ensue. How far it may be applicable to various forms of calculous disease, connected with the gouty diathesis, remains for future investigation to decide. Most unequivocal proofs have already been afforded me, of its efficacy in correcting and removing certain disordered states of the urine in individuals prone to attacks of gravel." 35.

V.—HISTORY OF A CASE OF PHLEBITIS, WITH OBSERVATIONS. By *Thomas H. Silvester*, M.D.

This is really a remarkable case. We hardly see the possibility of condensing the excellent account of it furnished by Dr. Silvester.

Case.—Mr. P., æt. 59, observed on Friday evening, March 27th, a pimple on his upper lip, which he supposed to have arisen from a scratch in shaving. His friends had noticed him carrying his pen, whilst engaged in accounts, traversely between the lips. He had been using a steel pen, and a new metallic ink, and it appeared to them that this fluid had accidentally come in contact with the wound, and imparted to it the peculiar deep-red irritable aspect which was very observable. On the following Tuesday the patient retired to bed early, complaining of general uneasiness, but neither fever nor head-ache were present, and he slept well. Dr. S. saw him, for the first time, the next day, (Wednesday,) his pulse was 120, small and weak, the skin cool, and he did not complain of thirst. The countenance was inexpressibly anxious, not unlike that of a person who has taken poison, or one who has been stabbed in the abdomen; the lip was greatly swollen, and he suffered more from a feeling of distention than from pain. So much difficulty was experienced in the attempt to open the mouth, that it became next to impossible to ascertain the state of the tongue; another hindrance arose from the tumified overhanging lip, beyond which the tongue could not have been projected had no other impediment existed. The tumefaction extended a little way upwards on each side of

the alæ nasi, but not at all downwards towards the lower lip; it was of a dark red, almost livid, hue, and very firm to the touch. There were no vesicles nor bullæ, nor œdematous appearances on pressure; the pain was of a distending, and not of a burning kind. The affection so resembled the asthenic form of erysipelas, that Dr. Silvester determined upon tonic treatment. The patient was desired to take from four to six ounces of port wine in boiled sago during the twenty-four hours, and three grains of the disulphate of quinine every four hours. This mode of treatment seemed to promise the best effects,—the pulse became fuller and stronger, and the swelling ceased to spread,—the lip itself was cool, but of an immense size,—a glutinous exudation, which now appeared on its surface, thickening gradually from day to day by fresh additions, assumed at length the appearance of a coarse scab, with rocky projections, so perfectly inflexible, that not even the slightest movement of the lip could be effected.

The gums, and the interior of the mouth generally, were seen to be of a dark livid hue, and viscid saliva flowed unceasingly over the neighbouring parts, occasioning soreness and excoriation. On the fourteenth day of the disease, the skin was cool and perspirable, the pulse 80, still rather feeble, the lip was nearly free from uneasiness, although much swollen and thickly encrusted: the patient had slept well the previous night, he was enjoying, with a good appetite, his sago, and believed himself to be rapidly recovering. Dr. S. observed on the very next day a large red cord, apparently terminating in a vein extending upwards at the side of the nose as far as the inner angle of the eye, first on the left, and afterwards on the right cheek. These inflamed vessels greatly resembled irritated absorbents, but they were of much larger size than the latter, being as big as a goose-quill, even whilst no fluid could be detected in their interior by the touch. After the lapse of five or six days, fluctuation was distinctly perceptible, and Dr. S. then noticed at several points in the course of these suppurated veins, a slight degree of redness. These red spots became the seat, each of an exudation precisely of the same character and appearance as that which had previously been observed on the upper lip. A viscid liquid at first escaped, and this, either hardening, or being succeeded by a secretion of thicker consistence, a series of projecting masses, somewhat larger than a horse-bean, of a yellowish green hue, not unlike the scabs of rupia, appeared along the course of the vessels. On one of these scabs or exudations being loosened from its seat, at a subsequent period, pus continued to flow for several days from the part which had received the violence. Another, which had escaped injury, and maintained its position up to a period within one week of the patient's death, dislodged itself spontaneously from the depression between the eyebrows, which situation it had occupied, leaving the parts underneath perfectly sound and healthy, but rather redder than natural.

On the twentieth day of the disease the veins of the forehead had begun to swell, and in a very short period they were to be seen, in great numbers, ramifying all over the fore part of the head, and extending beyond the vertex, presenting a most extraordinary appearance, difficult for the pencil to portray. The skin and cellular membrane occupying the spaces between the several inflamed vessels seemed at this stage of the complaint

to be almost wholly unaffected, and owing to this circumstance, the veins themselves were highly prominent and easy to be distinguished from any other order of vessels. A process similar to that which had taken place in the veins of the lip and face, occurred in those of the scalp, namely, exudation of a glutinous fluid, and incrustation in some instances—resolution and suppuration in others.

The incrustations became loose invariably on the application of a poultice, and quickly fell off. The interior of the vein was thus exposed, and a long, irregular, ulcerated cavity formed.

The vessels which were opened with a lancet emptied themselves gradually of their contents—pure laudable pus for the most part—and neither exudation of the thin gelatinous fluid nor ulceration took place.

On the 21st of April, skin cool, pulse 82, feeble but regular. 24th—the pulse had suddenly risen to 100, extremely feeble.

On the 6th of May the patient seemed to have had a shivering; it was however very slight: he had likewise vomited after his usual night dose of Syr. Papav. 8th—greatly excited after a dose of morph. hydrochloras gr. ss. 26th—the patient expired, perfectly rational to the last moment.

Autopsy.—The body greatly emaciated; on turning back the scalp, which was so fragile and perforated by ulceration that it tore, and yielded to the slightest touch, the diseased veins were seen, meandering over the internal surface, filled in some part of their course with a yellowish crumbling, fibrinous mass, the smaller branches containing fluid blood of a pale colour, in minute quantity, and a single trunk of the temporal on the left side terminated in a foyer filled with laudable pus. On slitting open those veins which, during life, appeared restored, or nearly so, to their natural condition, they were found perfectly empty, rough and irregular in their interior, apparently deprived of their smooth lining, and their calibre greatly increased. The shrunken attenuated muscles were cut into and examined in several parts of the body, but no deposits of pus could be detected. The lungs, liver, kidney, and brain were in a healthy condition, but bloodless. The heart and larger vessels entirely empty. The joints were not examined internally, but they evidently contained no fluid. The patient had not complained of pain or uneasiness in the limbs, and had even walked across the room a few days before his death.

Dr. Silvester makes some judicious reflections on the case, which presents many features of singularity. Unfortunately, there seems to be no opportunity of drawing from it any great practical lesson.

VI.—CASES OF CANCEROUS OR MALIGNANT DISEASE OF THE SPINAL COLUMN, WITH REMARKS. By *Cæsar Hawkins*, Esq.

Mr. Hawkins observes that there are so few well-described examples of malignant disease of the spinal column, that he is induced to relate four cases which have come under his observation. We shall endeavour to abbreviate them.

Case 1.—Sophia Green, aged 39, admitted into St. George's Hospital,

May 7, 1834, with ulcerated cancer of one breast, thickened skin, and enlarged absorbent glands. She complained however quite as much of pain in the neck, which had begun about two months previously, the pain being in the cervical vertebræ chiefly, whence it extended round the neck and over the scalp, and all these parts were very tender to the touch. She had also a little difficulty and pain in swallowing, and was unable to move her head in any manner without great exertion, and the effort gave her considerable pain. Supporting her head and neck on the right side, as she lay in bed, was very painful, but she could not lie on the left side at all; probably some stretching of the parts being occasioned by the weight of her head on the pillow. If she tried to change her position, it was done by first putting both her hands to her head to support it; and pressing the head downwards by the hand occasioned much suffering. The centre of the neck appeared a little sunk forwards, as if the upper vertebræ had been depressed in that position. In the early part of June an immense number of cancerous tubercles formed in the skin around the breast, covering much of the abdomen, and thorax, and shoulder; and in the latter situation many of them had coalesced, so as to form a hard mass of considerable size. About the same time she began to suffer from obstinate constipation, with frequent vomiting—the breast sloughed extensively—and she died on the 16th of July.

Dissection.—The breast and pectoral muscles, and cellular texture, formed a large mass of scirrhous tumor, which at one part reached to the intercostal muscles, and a central slough had contaminated the ribs also, two of which were softened by absorption of their earthy substance, and filling of the cells with bloody pulp, so as easily to allow of their being bent or cut. The cutaneous tubercles, and absorbent glands, and the fat surrounding them, were evidently of cancerous structure, and one of the glands contained some bloody purulent fluid. The body of the fifth cervical vertebra was very irregular on its surface, and was softened throughout with much enlargement of the cells of the cancelli, which were filled with a sanguineous pulpy fluid; the two adjoining vertebræ showed a lesser degree of the same morbid structure. The uterus was healthy, but both Fallopian tubes were much dilated, and contained a thick brownish fluid; the ovaria formed two tumors of the size of an orange, and contained several cysts, the larger of which were filled by transparent fluid, the others by an opake semi-fluid substance. These ovarian tumors were the immediate cause of death, as they filled the pelvis in such a manner as to obstruct the rectum, which lay in the angle between them, upon the sacrum; and their nature was probably malignant, as several of the lumber glands were enlarged and pulpy.

In this case the cancerous change of structure was in an early stage, affecting only the cancellous texture, or nearly so, and influencing slightly the adjacent nerves; but not forming any tumor, and causing no alteration in the functions of the spinal marrow. The next case illustrates the further progress of the disease.

Case 2.—Jane Hall, aged 55, admitted for paraplegia under Dr. Wilson, transferred to Mr. Hawkins, in November, 1839. The right breast had been removed *six years previously* for cancer, and the part had remained

well till May of the present year, at which time some cancerous tubercles were formed in and around the cicatrix, and one or two glands became enlarged and hard in the axilla.

About March she had begun to suffer much pain in the back, chiefly in the dorsal region, and in May she experienced some pricking sensations in the feet, soon followed by numbness and loss of sensation, and in a short time by loss of power over the muscles of the lower limbs, which nearly at the same time became affected by involuntary contractions; in July the bladder and rectum also became paralysed.

In November, one spinous process in the back was just enough prominent to be fixed upon as the seat of the disease, but by degrees it projected so as to form an acute angle, with a considerable curve above and below it, the vertebræ being bowed forward somewhat in a semicircular form. She complained of constant and acute pain along nearly the whole spine, but especially at the angle formed by the sixth dorsal vertebra, and the pain was much increased by pressure about this part, or any where below it, and for a little way above that bone. The angle appeared to arise from loss of substance in the body of the vertebræ, without any apparent swelling around it. Below the affected part of the spine all the functions of the spinal marrow were materially impaired. And Mr. Hawkins gives a very interesting account of experiments, showing the absence of voluntary motion with the persistence of the excito-motory power, &c. Sloughs formed on the trochanters and sacrum, and on June 17, 1839, the patient died.

Dissection.—All the vertebræ were found to be unusually soft and vascular, and there were seen in the section of several of the dorsal vertebræ spots or tubercles of yellowish white substance, similar to that found in larger quantities in their bodies. On opening the sheath of the spinal marrow, a little clear water was seen below the arachnoid membrane, but the whole medulla was of its natural colour and consistence, and presented no appearance whatever of inflammation. Opposite to the sixth dorsal vertebra it had been pressed upon by a tumor projecting from the body of the bone, so that a deep sulcus of the entire circle was formed, in which so little medullary matter was left that the central part was almost transparent: the part thus pressed upon was full half an inch in length. Even in this point, however, there appeared to have been no inflammation whatever.

Opposite to this part some firm structure without bone projected from the body of the sixth dorsal vertebra in the form of four oval prominences, so as to encroach considerably on the canal; three of these were covered by the dura mater in firm union with the morbid growth, but over the other an opening was formed in the membrane with smooth edges, through which the new growth appeared, the opening being the result of simple absorption without any ulceration. On making the section of the vertebræ seen in the preparation, the morbid growth was found to proceed from these vertebræ, the sixth or central one being most altered in shape, though all three of their bodies were almost entirely converted into a cancerous substance; the sixth having spread out posteriorly, while it was much compressed in front, the fifth and seventh vertebræ almost coming in contact, an acute angle was thus produced, which made the spinous

process of the sixth so prominent during life. The projection into the canal was about half an inch beyond the line of those vertebræ which had no external growth; in several of the other vertebræ, however, cancerous substance had been deposited in the form of tubercles in their cancelli.—The new growth was firm, with fibrous structure of a white appearance in bands, with some yellow softer substance in the interstices. Many of the other bones of the body, and the other parts of those in which the cancerous tubercles were seen, were softer and more vascular, and with larger cells than usual, with reddish pulp in their cancelli.

The lungs were healthy, but the pleuræ were every where closely adherent, so as to form a thick layer of very hard substance, which had more the appearance of cancerous membranes than of simply inflamed pleuræ.

The abdomen contained a small quantity of serum, and almost the whole of the peritoneum was covered by small cancerous tubercles, in no part going into any viscus: they were hard and close set, of the size of grains of wheat, but a few were a little larger. They were most numerous on the diaphragm and small intestines, and many parts of the bowels were matted together by adhesion of these tubercles, especially about the head of the colon and the ileon. The omentum was changed into a hard scirrhous band about an inch broad, and half an inch thick.

The peritoneal surface of the uterus and adjoining parts was much altered by the tubercular deposit, and in the body of the uterus was embedded a small cancerous tumor the size of a pea.

The axillary glands were of well-marked scirrhous character, with bands going far into the surrounding fat; the cancerous cicatrix and cutaneous tubercles did not affect the muscles below them.

After alluding to two cases of Sir Astley Cooper's, and one of Sir Benjamin Brodie's, Mr. Hawkins remarks:—

"As a diagnostic sign of cancer of the spine, acute pain cannot therefore be regarded as *invariably* present, but in all the other four cases it appears to have been most excruciating; I never saw evidence in any other disease of the spine of such exquisite suffering as in my two cases; and as pains have generally been noticed as having preceded fracture of the femur or other bones, when affected with cancer, the practical inference may perhaps be legitimately drawn, that rheumatic pains much complained of in the spine, should usually contra-indicate the performance of an operation for cancer of the breast or other organ. In Green's case the acuteness of the pain and tenderness, and the manner in which certain nerves of the head, throat and neck were affected, enabled me some months before her death to anticipate cancer in the vertebræ; and in Hall's case also, the same circumstances, together with the degree, and in some measure the peculiar manner in which the functions of the spinal marrow were interfered with, left no doubt in my mind of there being cancer, although the angular curve made the local appearance not unlike that of caries." 59.

The preceding cases were instances of scirrhus of the spine succeeding scirrhus of the breast. The next case is adduced as one of primary scirrhus of the spine itself.

Case 3.—A gentleman aged 74, after sitting near an open window in the Spring of 1840, began to feel pain on the left side of the neck, extending from the head *to the shoulder*, with numbness of the left side of

the head. The pain was like that of rheumatism, and never subsided after its first appearance, and in about a month was succeeded by a swelling on the left side of the neck. Both pain and swelling increased, and in July, about four months from its commencement, the pain became more severe and burning, and both pain and swelling extended to the right side of the neck. When he came to town at the end of August, the pain was most severe on the right side, where a spot of the size of half-a-crown, about the middle of the neck, near the vertebræ, was affected with most excruciating pain; the pain every where was severe, but he said he could bear the rest tolerably well, if this part was relieved. Mercury and iodine of potassium, with leeches and cold lotions effected some diminution both of the swelling and the pain. In about three weeks Mr. Hawkins saw him.

In the back of the neck was a good deal of swelling, of a firm elastic character, appearing to be below the muscles, but now and then giving an obscure sense of deep fluctuation; the swelling on the left side of the spine reached from the head to the level of the fifth cervical vertebræ, and on the right was opposite only to the second and third bones, projecting chiefly at the sides, so as to leave the sulcus of the spinous processes in some measure perceptible. This swelling was very tender, as well as painful, without adhesion to the skin, or alteration of its colour. Every attempt to move occasioned very great suffering, so that it was difficult for him to find a tolerably comfortable position for the head to lie on a pillow; no movement whatever was performed, but by the head with the whole body, and any attempt forcibly to rotate the neck could not be borne for an instant; pressure on the head downwards produced also much increase of suffering. The pain was constant, but liable to occasional increase, it prevented sleep, and required the free use of opiates. The tumor diminished, but afterwards increased again. About three weeks before his death, his left arm became nearly paralysed, and the power over the left leg was slightly impaired, his senses being the whole time perfect.

During most of the time the general health was little disturbed, but latterly he suffered a good deal from salivation, and became thinner and weaker, and thought himself in danger, and during the last three weeks, in the last of which he had severe diarrhœa, his strength gradually failed.

Dissection, Oct. 25th.—The swelling was composed of a firm solid tumour, which occupied the place of the third cervical vertebra, and in part the second also, with a considerable portion of the adjacent ligamentous, tendinous and muscular substance, the distinction between what had been of osseous, and what of soft structure, not being clearly perceptible. The new structure occupied the whole of the arches and processes of the vertebræ, and in part their bodies also, so that scarcely any part remained osseous except the processus dentatus, which was by the softening of its base so moveable, that there must have been some risk during life, of its being torn away from its attachment. Some of the new structure had encroached on the vertebral canal on the left side, between the dura mater and the first and fourth vertebra, the tumor adhéring slightly to the membrane; and within it was a good deal of thin serum, but the medulla itself was not unusually vascular. The brain also was healthy, with the exception of some serum effused under the arachnoid of the cerebrum.

The tumor was white and lardaceous in appearance, and softest in the centre, where the bone originally existed, which part was also more vascular than the outer part, which had been formed by the softer tissue around the vertebræ; on the left side, where the natural texture of the muscles began to be evident in union with the morbid growth, was a small quantity of dark, bloody pus. In the liver, which was otherwise healthy, were two tubercles of the same white texture as the tumor, but a little firmer, and less lardaceous; one of these was on the surface, and of the size of a walnut; the other was in the interior, and a little smaller. The kidneys and other viscera, both of the abdomen and thorax, were healthy, except that the intestines were blanched by the diarrhœa.

Case 4.—C. Gibson, aged 4, admitted into St. George's Hospital, October 30, 1839, with the left nostril distended with a malignant tumor. Sir B. Brodie removed this, destroying the surface to which it was attached by means of the chloride of zinc. The child left the hospital at the end of January, there appearing to be only some dead bone to exfoliate. On Feb. 19, however, he was re-admitted, looking pale and anxious, and scarcely able to move any of his limbs, in which much pain was felt. The abdomen was large and tender, there was a good deal of fever, and the nostril was full of tenacious mucus, with some coagulated blood.

After his admission, the paraplegia increased, as to the muscular power, but the sensibility was not lessened, nor was there any sloughing of the lower part of the body; and somewhat later there was incontinence of urine and fæces.

Some bleeding continued to take place from the nose, with sloughing of the cheek, by which a large part of the maxillary bone was exposed, and its vitality destroyed, and in March, some glands behind the left ear enlarged considerably, and a tumor was felt at the extremity of the sternum. The general strength gradually declined, with much irritation from the gangrene of the face, and the child finally sunk on the 12th May, 1840, but without any loss of mental power.

The parts about the head had undergone much alteration; the maxillary bone was softened in the interior, and the antrum filled with soft medullary matter; the æthmoid and sphænoid bones were similarly changed, as well as the dura mater lining them, and the cells were obliterated by the morbid structure. Some new growth occupied the sphænoid fossa, and a portion coming into contact with the periosteum under the zygoma, the disease of the outer membrane had produced a hole through the temporal plate of the sphænoid bone, so as to project through it into the cranial cavity. The brain itself, however, was healthy.

The tumor at the end of the sternum had been formed all round the ensiform cartilage and adjacent bone, the cartilage itself being unchanged in the midst of a solid semi-cartilaginous mass, of the size of a large walnut, and of a yellowish white colour. A great many similar tumors existed in many other parts of the bones, which were almost every where confined to the periosteum, so that they could generally be easily separated from the bones by tearing off their investing membrane; the largest of these was on the inside of one ilium, and was three or four inches in diameter. They were most numerous along the front of the vertebræ, and on the

ribs; and the sections of the dorsal vertebræ showed that in several of these bones the new structure had spread into the cancellated texture, the outer shell being absorbed; and in the osseous tissue, as in the cells of the nose, the morbid growth was diffused and softened, so as to resemble medullary tumor, while all those of the outer part of the bones or cartilages were firm, and like fibrous cartilage in appearance; the intervertebral substances were wholly unchanged. Much new growth had also spread between all the processes of the vertebræ, and several masses of some size were formed on the posterior part, and, in one section, the dura mater was thickened by new growth, but smooth on its inner surface The appearance of the medulla spinalis in its recent state was unfortunately not observed; as far as can be observed, however, in its present condition, when hardened in spirit, it seems to have been irregularly pressed upon by the morbid growth within the spinal canal, but not to be otherwise altered in texture.

The vertebræ most affected were those of the back, which have been preserved; and from the tumors in front of these bones, a great mass of similar hard or cartilaginous appearance, and apparently of globular portions united, projected forwards in the centre of the chest, whence it extended into the root of each lung, the texture of which was thus mixed with divided portions of the general mass; and in some parts towards the circumference of the lungs, and under the pleuræ, were separate tubercles of similar hardness and appearance to those in the periosteum. No tubercles were observed in any of the other viscera; but the number existing on all the bony parietes of the abdomen accounted for the fullness and tenderness of that part during life.

These cases of Mr. Hawkins' will be perused with interest, in the dearth of well-described instances of medullary disease or scirrhus of the spine.

VII.—A CASE OF SLOW PULSE WITH FAINTING FITS, WHICH FIRST CAME ON TWO YEARS AFTER AN INJURY OF THE NECK FROM A FALL. WITH OBSERVATIONS. By *T. H. Holberton*, Hampton.

A gentleman, aged sixty-four, in December, 1834, whilst hunting, fell from his horse on his head, with his chin thrown violently on his sternum. He was stunned, and on recovering himself, he said that he "had broken his neck." He complained of general soreness and stiffness, and of great pain in the neck about the cuneiform process and condyles of the os occipitis. He was helpless and could not move in bed, and was totally unable to rotate the head. He was cupped, &c., and the head supported by an air-collar. The pain in the neck continued about six weeks. A year afterwards he looked well, but had still a difficulty in moving his head.

There was no further particular observed in this case until January, 1837, when he had a fainting fit, whilst walking out. Mr. Jackson of Stamford was sent for, and he found the pulse at twenty in the minute. He had another attack, after excitement, in the same year, and another in the following June.

In March, 1837, Mr. Holberton first saw the patient. Then "his pulse when he was free from excitement or casual disorder, was thirty-three, but

it was easily altered. Mental excitement usually increased it and, in general, this was followed by a corresponding slowness of the pulse, and often by a fainting fit; and a sudden rise of the pulse, or even a gradual increase above the point, that might in his state be called his healthful standard, usually indicated mischief, and was found to be a bad symptom. Costiveness, and disorder of the stomach and bowels, always affected the pulse, by increasing or diminishing it, and were the most invariably exciting causes of a fainting fit. Gout, to which he was very subject, was another cause.

The general character of the pulse, when he felt well, and was free from disorder, was firm, full, and free; sometimes quite regular, sometimes intermittent.

The attacks increased in frequency as well as in degree, as time advanced, and the first most severe and alarming *succession of fits* occurred in June, 1838. On the previous day, this gentleman had eaten heartily of a variety of substances at his dinner, and on the following day about one o'clock, P. M., syncope came on, and a succession of fits continued till half-past six or seven in the evening, with intervals of one or two to fifteen minutes between the attacks. I gave him brandy and other stimuli without stopping or even abating the fits; on the contrary they seemed to increase the mischief, for they made him sick, and disordered his stomach. His pulse on this occasion sunk considerably; it chiefly ranged between twenty and fifteen per minute, but at times it fell to twelve, ten, nine, eight, and at three or four different times when the patient was quite sensible and not in a fit, I counted his pulse as low as seven and a half in the minute. Dr. Mitchell on a subsequent occasion also observed this very low state of pulse, as did Mr. Cullen, who was then acting as my assistant.

If the finger were placed on the radial artery, the approach of a fainting fit might always be known, sometimes for a second or two before it manifested itself by any change of the countenance. The pulse would cease before the syncope took place; and the fit would continue till the heart again beat, when the face would redden and consciousness return with a wild stare and occasionally a snorting, a slight foaming at the mouth, and a convulsive action of the muscles of the mouth and face.

The frequency of the attacks was uncertain. Sometimes the patient would have two or three in a day, sometimes one in two or three days, at other times one in a week: sometimes one in a fortnight, or three or four weeks. Sometimes the fit would be severe and all consciousness be lost, at other times there would be a mere threatening or giddiness."

The treatment that agreed best consisted in carefully regulating the bowels, preventing the formation of acid in the stomach, giving a plain nutritious diet, with three or four glasses of wine a-day, or a proportionate quantity of brandy and water. The best plan during a fit, was simply to fan the face, apply Eau de Cologne, &c., to the nostrils, forehead, and temples, and, if there were a disposition to a continuance, to give coffee or tea.

His final and fatal attack occurred in April, 1840, at dinner.

Dissection.—The heart was large, and there was some thickening of the lining membrane, with some increase of size in the left, and more in the right auriculo-ventricular opening.

The dura mater *was very firmly* united throughout its whole extent to

lent to little more than one-half of the benzoic acid expended, so that the remainder must have made its escape by some other emunctory, probably the skin.

"The above crystals, when examined by the microscope, display the characteristic form of the hippuric acid, namely, a four-sided prism, with a dihedral summit."

"It may be observed, that no trace whatever of uric acid, or of any of its salts, or of benzoic acid, could be discovered in the above urine.

A nearly analogous result is obtained when benzoate of ammonia or of potash is administered; and, under particular circumstances, the exhibition of one or other will be found preferable to the simple acid; either in the neutral state, or with an excess of base, when there is a disposition to accescence in the *primæ viæ*; apportioning the dose, in every instance, to the condition of the urinary secretion, previously ascertained by analysis.

By this singular interchange of elements, capable of being effected only by the aid of vital chemistry, we have an organic acid, containing 8 atoms of azote and 10 of carbon, replaced by one containing no less than 18 of carbon and only 2 of azote, and that even in what various eminent pathologists regard as a highly azotised state of the system.

It is obvious that this new plan of treatment, and which does not interfere with other remedial means, must be steadily persevered in for a considerable length of time, ere any adequate benefit can ensue. How far it may be applicable to various forms of calculous disease, connected with the gouty diathesis, remains for future investigation to decide. Most unequivocal proofs have already been afforded me, of its efficacy in correcting and removing certain disordered states of the urine in individuals prone to attacks of gravel." 35.

V.—History of a Case of Phlebitis, with Observations. By *Thomas H. Silvester*, M.D.

This is really a remarkable case. We hardly see the possibility of condensing the excellent account of it furnished by Dr. Silvester.

Case.—Mr. P., æt. 59, observed on Friday evening, March 27th, a pimple on his upper lip, which he supposed to have arisen from a scratch in shaving. His friends had noticed him carrying his pen, whilst engaged in accounts, traversely between the lips. He had been using a steel pen, and a new metallic ink, and it appeared to them that this fluid had accidentally come in contact with the wound, and imparted to it the peculiar deep-red irritable aspect which was very observable. On the following Tuesday the patient retired to bed early, complaining of general uneasiness, but neither fever nor head-ache were present, and he slept well. Dr. S. saw him, for the first time, the next day, (Wednesday,) his pulse was 120, small and weak, the skin cool, and he did not complain of thirst. The countenance was inexpressibly anxious, not unlike that of a person who has taken poison, or one who has been stabbed in the abdomen; the lip was greatly swollen, and he suffered more from a feeling of distention than from pain. So much difficulty was experienced in the attempt to open the mouth, that it became next to impossible to ascertain the state of the tongue; another hindrance arose from the tumified overhanging lip, beyond which the tongue could not have been projected had no other impediment existed. The tumefaction extended a little way upwards on each side of

the alæ nasi, but not at all downwards towards the lower lip; it was of a dark red, almost livid, hue, and very firm to the touch. There were no vesicles nor bullæ, nor œdematous appearances on pressure; the pain was of a distending, and not of a burning kind. The affection so resembled the asthenic form of erysipelas, that Dr. Silvester determined upon tonic treatment. The patient was desired to take from four to six ounces of port wine in boiled sago during the twenty-four hours, and three grains of the disulphate of quinine every four hours. This mode of treatment seemed to promise the best effects,—the pulse became fuller and stronger, and the swelling ceased to spread,—the lip itself was cool, but of an immense size,—a glutinous exudation, which now appeared on its surface, thickening gradually from day to day by fresh additions, assumed at length the appearance of a coarse scab, with rocky projections, so perfectly inflexible, that not even the slightest movement of the lip could be effected.

The gums, and the interior of the mouth generally, were seen to be of a dark livid hue, and viscid saliva flowed unceasingly over the neighbouring parts, occasioning soreness and excoriation. On the fourteenth day of the disease, the skin was cool and perspirable, the pulse 80, still rather feeble, the lip was nearly free from uneasiness, although much swollen and thickly encrusted: the patient had slept well the previous night, he was enjoying, with a good appetite, his sago, and believed himself to be rapidly recovering. Dr. S. observed on the very next day a large red cord, apparently terminating in a vein extending upwards at the side of the nose as far as the inner angle of the eye, first on the left, and afterwards on the right cheek. These inflamed vessels greatly resembled irritated absorbents, but they were of much larger size than the latter, being as big as a goose-quill, even whilst no fluid could be detected in their interior by the touch. After the lapse of five or six days, fluctuation was distinctly perceptible, and Dr. S. then noticed at several points in the course of these suppurated veins, a slight degree of redness. These red spots became the seat, each of an exudation precisely of the same character and appearance as that which had previously been observed on the upper lip. A viscid liquid at first escaped, and this, either hardening, or being succeeded by a secretion of thicker consistence, a series of projecting masses, somewhat larger than a horse-bean, of a yellowish green hue, not unlike the scabs of rupia, appeared along the course of the vessels. On one of these scabs or exudations being loosened from its seat, at a subsequent period, pus continued to flow for several days from the part which had received the violence. Another, which had escaped injury, and maintained its position up to a period within one week of the patient's death, dislodged itself spontaneously from the depression between the eyebrows, which situation it had occupied, leaving the parts underneath perfectly sound and healthy, but rather redder than natural.

On the twentieth day of the disease the veins of the forehead had begun to swell, and in a very short period they were to be seen, in great numbers, ramifying all over the fore part of the head, and extending beyond the vertex, presenting a most extraordinary appearance, difficult for the pencil to portray. The skin and cellular membrane occupying the spaces between *the several inflamed vessels* seemed at this stage of the complaint

2. *What is the special anatomy of the* base *of the encephalon, and its relation to cerebral diseases?*

3. *Why, with* similar *symptoms, have we* dissimilar *morbid appearances within the cranium; and vice versâ?*

4. *What are the diseases of the nervous system in which we find, generally speaking,* no *morbid appearances on a post-mortem examination?*

Dr. Hall proceeds to treat briefly these questions and subjects in succession.

1. *What are the distinct Diseases of the Cerebral, the True-spinal, and the Ganglionic Systems; their mutual influence, and the order in which they are manifested?*

Dr. Hall remarks,—If disease be limited to the cerebrum, its influence is limited to the cerebral functions. If from the cerebrum it extends its influence to the true spinal marrow, the functions of this latter are involved, and spinal symptons are added to the cerebral; or with the cerebral the spinal functions are impaired. This latter condition may frequently be detected by using the reflex function as a *test;* and in this manner the views of this function, which have recently been laid before the profession and before this Society, come to have their practical application. They afford, indeed, a new source of diagnosis of the nature, seat, and extent of diseases of the nervous system, and consequently of their prognosis.

If the disease be limited in its effects to the true spinal marrow, the symptoms are exclusively spinal, sometimes in excess, sometimes in a defective form. If the cerebral system become also involved, cerebral symptoms are superadded to the spinal.

Similar remarks may doubtless be made in regard to the ganglionic system, viewed in its connections and relations with the cerebral and spinal.

He cites hemiplegia as an instance of affection of the cerebral, tetanus as a sample of that of the true-spinal functions.

Hemiplegia.—In cases of hemiplegia, observes Dr. Hall, the *danger* is precisely in proportion as spinal symptons are superadded to those of the cerebral system. If the respiration be stertorous, if the deglutition be difficult, if the functions of the bladder, rectum, and sphincters be impaired, there is great danger; if these events *continue* for a considerable time, or if they *supervene*, the event is always fatal.

The spinal symptoms which exist at first, and gradually yield, probably depend on *counter-pressure* from congestion; this counter-pressure is relieved by blood-letting, &c., and its effects cease. When, on the contrary, the spinal symptons continue, in spite of the remedies, they probably depend on the extent of the effusion; and this cannot be remedied.

Apoplexy.—"I need scarcely remark, that in congestion of the cerebrum, in apoplexy, as well as in hemiplegia, if the symptoms of affection of the true-spinal system *continue*, the issue is fatal. In such cases the patient dies of asphyxia; and I cannot but think that tracheotomy might sometimes allow time for the operation of remedies or of nature's resources, and prevent a fatal result. It is well known to the members of this society, that this operation, performed

by Mr. Sampson, of Salisbury, saved the life of a poor patient, dying from the apoplexy of deep intoxication.

I may here observe, that if the stupor and sterter continue, the next series of phenomena are those observed to result from defect of the function of the ganglionic system. The bronchi become clogged with mucus, and the intestines distended and tympanitic from flatus. M. Andral observes—'Le stertor de la respiration est en général un signe d'un très fâcheux augure, et il est rare que les individus qui le présentent d'une manière prononcée échappent à une mort prochaine. Pour l'expliquer, on trouve sur le cadavre un engouement considerable du poumon, et beaucoup de mucosités spumeuses dans les bronches. C'est véritablement par la gêne de la respiration que succombent les sujets frappés d'hémorrhagie cérébrale, dans le cas où l'attaque est forte, et où ils meurent promptement.' It is obvious that the stertor is *not* explained in this manner; but that the bronchial and tracheal rattles which occur under these circumstances *are* so explained. They constitute, in effect, two orders of phenomena. The stertor depends on affection of the medulla oblongata: the crepitus or rattle on that of the ganglionic system. The latter is precisely the effect observed by Sir Benjamin Brodie, Sir Astley Cooper, and other physiologists, in animals in which the pneumogastric nerves had been divided. But the stertor depends upon the affection of the true-spinal system." 92.

Hydrocephaloid Disease.—"I attended the son of Mr. Howlett, in Thayer-street, in consultation with Mr. Grant. The little patient was four years old, and laboured under symptoms which seemed to denote the existence of hydrocephalus; there was a state of stupor; the eye-lids were only partially closed, and they were immoveable on the approach, and actual contact, of the finger; the respiration was irregular, and the pulse frequent. I observed that the phenomena presented by the eye-lids would afford a criterion, which would suggest both the diagnosis and prognosis. The history, and the cool and pale condition of the cheeks, suggested the hope that the symptoms depended more upon exhaustion than actual disease within the head. I ventured to give sal volatile, brandy, and nourishment. We had, in a short time, the pleasure of observing the eye-lids become impressible to the stimulus of the finger, the respiration to become regular, and the gradual recovery of the little patient was no longer doubtful." 93.

Mania with and without Paralysis.—Dr. Hall alludes to M. Leuret's position, that mania without paralysis is altogether unattended with organic lesion. He believes that there is a lesion of an *intra-vascular* kind. We fancy this opinion is not confined to Dr. Hall.

Tetanus.—This disease, says our author, is, in every respect, the most unequivocal example of an affection of the true-spinal marrow, through an incident and the motor nerves. All the functions of this sub-division of the nervous system are affected in the most violent form, whilst the cerebral functions are unaffected: the dyspnœa, the dysphagia, the constipation, the trismus, the emprosthotonos, the opisthotonos, the extreme susceptibility to causes of physical impression and agitation, and of mental emotion,—all mark an affection of the true-spinal system; whilst the freedom from all affections of the senses and of the intellect, the absence at once of delirium and of coma, denote the normal condition of the cerebral system. Hydrophobia is in the same category.

Epilepsy.—Dr. Hall thinks that in this the very first symptom is gene-

rally, if not always, one of the true-spinal kind. This first symptom is constriction about the throat, and closure of the larynx, more or less complete; then follow violent expiratory efforts and convulsive movements of the trunk and limbs. Intermediately, and even without the convulsive movements, the cerebrum is affected with congestion, and a multitude of cerebral symptoms occur: flashes of light, tinnitus aurium, the aura epileptica; a momentary oblivion; a state of terror, of delirium, or of unconsciousness, &c.; as *parts* of the general convulsion, the tongue is protruded and bitten, the fæces, the urine, or the semen expelled; as *consequences* of that convulsion, the cerebrum is congested, and there is coma. If this state continues, another order of symptoms takes place; the respiration becomes stertorous, and, at length, affected with mucous rattle, the true-spinal and ganglionic systems becoming fatally involved in the disease.

It is the constriction about the throat which assimilates epilepsy to the state of things which exists in *strangulation*, and which distinguishes it from hysteria. It is this circumstance which associates epilepsy with the crowing inspiration and the convulsions of children; all are *laryngismal*. In epilepsy, there is sometimes a crowing inspiration; the crowing inspiration and convulsion of infants are sometimes followed by epilepsy in subsequent years.

Sinking.—The gradual sinking from loss of blood, especially, seems, says Dr. Hall, to involve every part of the nervous system. There is mild delirium or stupor from affection of the cerebral system; there is a peculiar catching motion of the larynx and other organs of respiration, from affection of the true-spinal system, instead of the *equable* rhythmic movements observed in health; there is an extreme frequency of the pulse; and there is a peculiar crepitant rattle, at first in the small, and eventually in the larger bronchi, and an equally peculiar tympanitic distention of the intestines, from affection of the ganglionic system, *all* of fatal import. The functions of the cerebrum, of the true-spinal system, and of the ganglionic system, seem to fail altogether.

Shock.—The effects of *shock* have their chief seat in the ganglionic system—the circulation, the secretions are greatly affected.

"In the presence of a young Parisian student, I divided the spinal marrow in a frog. I pinched the toes, but there was no movement, no reflex action. My companion observed, 'Ah, c'est fini;' I replied, 'Non, ce n'est pas commencé.' In a few minutes, the reflex actions became obvious, and in a few minutes more, most energetic. We had examined the circulation previous to the division of the spinal marrow. It was most active. But immediately after that division, scarcely a movement was to be seen. Like the reflex actions, however, the vigour of the circulation was gradually restored.

In one frog, after the return of the circulation, I crushed the leg and thigh with a hammer. There was no sensation of course, the influence of the cerebrum having been removed. The circulation again immediately ceased. It again returned after a time." 99.

2. *The Influence of Irritation, of Pressure, of Counter-irritation, and of Counter-pressure, in Disease within the Cranium and Spinal Canal.*

After remarking on the important part played by irritation and pressure in diseases of the nervous system, Dr. Hall adds :—"Not less important, and hitherto overlooked or neglected, are *counter*-irritation and *counter*-pressure, of which I shall therefore proceed to treat more particularly. The former is induced by slighter causes, as slight effusion into the ventricles, the latter, by the same causes carried to a greater degree."

Counter-irritation.—Dr. Hall thus attempts to explain a fact stated by Andral, and familiar to all, that the same cerebral lesion in different cases will produce different symptoms. He says :—

"M. Andral speaks of *irritation* of the *cerebrum* as the cause of abnormal muscular contractions. Now, in our investigations into the nature of cerebral diseases, we must remember one circumstance; it is impossible to induce muscular action by any irritation of the substance of the cerebrum itself. Whenever, therefore, there are spasmodic affections in diseases of the nervous system, we *must* conclude that the *spinal* system is involved, either primarily or secondarily, in the disease. Irritation of the cerebrum may induce delirium and other disorders of the cerebral functions; congestion of the cerebrum may induce coma, paralysis, &c. But if these morbid conditions of the brain be attended by spasmodic or other deranged actions, it is because the true-spinal system is involved in the disease, or affected by it in the way of irritation, counter-irritation, or of pressure, or counter-pressure. Hence we observe the symptoms of spasm in various diseases of the encephalon, the condition being, not the nature of the disease, but that they produce these intermediate effects. *Time*, as is well known, is a very important element in this problem; and why is it so? The fact is to be explained on the same principles. The very same lesion occurring quickly, will produce effects which will be totally absent if it creep on slowly. In the former case, we have the effects of irritation and pressure, or of counter-irritation and counter-pressure; in the latter, the cerebrum has so accommodated itself to the new state of things, probably by the altered condition of its vessels, as to avoid these effects, except towards the close of the disease.

We need not, therefore, now view with surprise the fact that the same lesion, as found *post-mortem*, had been attended by a totally different series of symptoms during life, any more than the other fact, that, in the different *periods* of that lesion, the symptoms have been different.

The symptoms frequently subside too and re-appear. If the disease be not regularly progressive, the encephalon accommodates itself, as I have stated, and the symptoms disappear; if now the disease proceeds, the symptoms also return. At least all this *may* be.

A rapid effusion of serum may resemble hæmorrhage or ramollissement in its effects; or slow effusion may merely obscure the intellectual faculties." 105.

It is not, therefore, says Dr. Hall, the *disease*, but its *effects* upon the brain and spinal marrow, which is the source of the symptoms. If ramollissement, effusion, a tumor, &c. produce similar effects on these textures, the same affection of the functions, the same symptoms, will be observed.

However ingenious this explanation, it leaves the *practical* difficulty where it found it. The difficulty in question is this:—given, any set of symptoms, what is the lesion? Such symptoms are found in conjunc-

tion with such different lesions, or independent of any which can be appreciated, that precision of diagnosis seems impossible.

Counter-pressure.—Dr. Hall comments on the effects of undue pressure, and of defective pressure.

"It is well known from the experiments of M. Flourens especially, that irritation of the cerebrum has no influence in inducing spasmodic action. Whenever, therefore, spasmodic symptoms occur in diseases of the cerebrum, it must as I have already stated, be on a principle different from that of irritation of the substance of the cerebrum itself; it must be from an impression made upon parts of the nervous system in which the property of exciting spasmodic action on being subjected to irritation resides; these parts are the tubercula quadrigemina, the medulla oblongata, the intra-cranial nerves, &c.

That *undue* counter-pressure on the medulla oblongata may, and actually does, excite convulsions, is proved by the following facts: In the interesting case, most anxiously watched and accurately detailed to me by my friend Mr. Toogood, of Bridgewater, of his own little girl, aged thirteen months, the croup-like convulsion occurred repeatedly, until one day, when the bones of the cranium separated, and the convulsion ceased. In a case of spina-bifida, related to me by Mr. Herbert Evans, of Hampstead, there was a croup-like convulsion whenever the little patient turned so as to press upon the tumour. In the case of an anencephalous fœtus, described by Mr. Lawrence, convulsion was produced on pressing on the medulla oblongata. In a case of meningitis, given by Dr. Abercrombie, the anterior fontanelle became very prominent. Pressure upon it induced convulsion. Hypertrophy of the brain affords an argument of the same kind: it induces convulsion, *except* in the case in which the cranium grows with the encephalon. These and other facts lead me to think that convulsion arising from cerebral disease is thus to be explained." 107.

Dr. Hall relates an interesting case from Andral, in which defective pressure was a cause of convulsions likewise. M. Berard removed a fungous tumor from the dura mater—convulsions followed. He applied pressure on the cerebrum, and the convulsions ceased.

Dr. Hall concludes, that the true spinal symptoms which occur in cerebral attacks arise from counter-pressure; when the source of this is permanent, as in hæmorrhagy, the effect is permanent too, and the case fatal; when it is remediable by blood-letting, as in congestion, the cause and its effects are removed together.

The convulsions induced by hæmorrhage depend upon a similar subtraction of the intra-vascular pressure of the blood in the medulla oblongata. But the changes must be rapid. The cerebrum accommodates itself to tardy ones.

The next subject to which Dr. Hall passes is :—

3. *The Special Anatomy of the Base of the Encephalon in reference to Diseases of the Nervous System.*

After noticing the disposition of the constituents of the basis of the brain, and the effects of the tentorium in preventing direct pressure from the cerebrum on the parts below; Dr. Hall adds :—

"It is these circumstances, combined with another element of the proposition —that of *time—which frequently leads* to an effect which I shall notice immedi-

ately; viz. the difference of symptoms with identity of lesion, and the similarity in the symptoms when the lesion is dissimilar. The same morbid change will produce very different effects, developed as an acute and as a chronic disease: and different physical lesions will produce nearly the same results, if developed in nearly *equal times*.

In a chronic affection, the cerebral substance yields, its vessels becoming empty, and pressure is not induced. In acute affections, on the contrary, pressure is made upon contiguous, and counter-pressure upon distant parts, with their appropriate symptoms. By degrees, even in the latter case, the cerebral substance yields, and the symptoms, in the less severe case, subside, and even disappear." 110.

Then comes an important inquiry, viz.—

4. *Why, with similar symptoms, have we dissimilar morbid appearances, and vice versâ?* and, *what are the Diseases of the Nervous System, in which we find no morbid appearances on a post-mortem examination?*

If, observes our author, the source of the symptoms be not the mere lesion of a function, induced by the lesion of a special part or organ of the encephalon, but the effect of irritation and counter-irritation, of pressure and counter-pressure, it is obvious that these primary effects, and their effects in their turn, may result from *any* disease, if the *times* be similar, whatever that may be.

It is accordingly to the *history* that we chiefly have recourse for the diagnosis of cerebral diseases, and especially to that of the seizure and first stage: at their close, almost all diseases of the encephalon are alike: almost all terminate by coma, paralysis, convulsions, stertor, and impaired actions of ingestion and egestion, and of the orifices and sphincters, from compression of the cerebrum and medulla oblongata.

If Dr. Hall implies that different lesions occurring in the same *time have* the same symptoms, we fear we must hesitate to agree with him. If he contends only that they *may* have, that is another matter. One case of chronic abscess in the cerebrum may be attended with obstinate vomiting—another case of abscess, equally chronic, may never be accompanied by vomiting at all. No doubt, the discrepancies depend on modifications of irritation, pressure, vascularity, &c., but the capability of measuring or determining in diagnosis those seemingly capricious and fugitive conditions, will probably ever be denied to us.

Besides, as Dr. Hall remarks, morbid changes take place towards the *close* of many diseases, which do not properly, or at all constitute the disease. In exhaustion, in chlorosis, in delirium tremens, effusion of serum, and even of lymph occurs. In disease of the encephalon itself, such effusion also takes place, late in its course, and *complicates* the original disease.

Effects of Exposure to Severe Cold.—Whilst exposure to a moderate degree of cold conduces to the state of hibernation, a physiological and preservative condition, exposure to intense cold induces *torpor*, a state totally different, but not sufficiently distinguished from the former, of a pathological character, and of *fatal* tendency. In the state of hiberna-

tion, the animal is dormant and motionless, but the actions excited are perfectly regular; in the state of torpor, on the contrary, the animal moves about, but the movements are, in the highest degree, irregular and tottering. This stupor ends in death.

In man, the impairment of muscular power, when benumbed by cold, is well known.

Exposure to extreme heat or cold equally induces spasmodic action in the muscular system. A young gentleman having been ordered a warm bath, mistook the temperature, and exposed himself to such a degree of heat as induced general spasmodic action of the most painful kind. The effect of too intense a cold on swimmers is familiar.

"When the exposure to cold is more partial, effects on both the sentient and motor portions of the nervous system are produced, which have this characteristic:—there is at first paralysis, and afterwards undue action. The first effect of exposure to cold is numbness in the fingers; this usually yields to pain, vulgarly termed 'hot-ache,' especially if the warmth be restored too rapidly. In a relative of mine, exposure to a severe wind, with sleet, induced perfect numbness of one side the face; this paralysis subsided, and gave way to severe tic douloureux. A lady, whose case I shall detail more at length immediately, was exposed to severe cold with wind. The next day she arose from bed with paralysis of one side of the face! This paralysis yielded by degress to spasmodic tic.

Exposure to cold is a far more frequent cause of paralysis than is generally supposed. Such an effect on the face has been designated, in common language, (which frequently involves an important truth,) *a blight*. Cases of paralysis of the face; from exposure to cold, are detailed by Dr. Powell in the fourth volume of the Transactions of the Royal College of Physicians. There is a poor little boy, residing near me, of six years of age, whose limbs are nearly paralytic in consequence of a long and most criminal exposure to cold by a nurse. Some years ago, I visited a gentleman perfectly paraplegic, from long exposure to intense cold on the outside of a coach. Baron Larrey speaks of permanent paralysis, left by exposure to intense cold during the campaign in Russia. Paralysis, happily of a less permanent character, has been experienced by every one under similar circumstances.

But the point to which I must now revert, and to which I beg to call the attention of the members of this Society, is, that the first effect of a partial but severe exposure to cold is paralysis; whilst the more remote effect is undue action." 118.

Dr. Hall relates a case in which the face was first drawn to the *left* side, the *right* eyelid being paralysed. Afterwards the face was drawn to the *right* side, the *right* eyelid being closed spasmodically. He concludes, and probably with truth, that there was first a paralytic condition of the *right* facial nerve, and afterwards a spasmodic affection of it. From misapprehension of this, the remedies were applied to the wrong side of the face.

In conclusion, Dr. Hall recommends that, in all future cases of disease of the nervous system, the various points be observed in the following order.

I. *The Cerebral Symptoms.*
   1. *Excess, or defect, in the Senses; Pain*
   2. *Delirium; Coma.*
   3. *Paralysis.*

II. *The true-Spinal Symptoms.*
  1. *Spasm, clonic or tonic.*
  2. *Paralysis,—in regard to*
    1. *The functions of Ingestion.*
    2. *The functions of Excretion.*
    3. *The Muscular System generally.*
  3. *Reflex and Retrograde Actions.*
  4. *Irritability of the Muscular Fibre.*

III. *The Ganglionic,—in regard to*
  1. *Nutrition.*
  2. *Temperature.*
  3. *The Secretions, especially those of*
    1. *The Bronchi.*
    2. *The Stomach and Intestines.*
    3. *The Kidneys and Bladder.*

IV. *The Effects of Emotion.*

V. *The Effects of Shock.*

VI. *The Effects of Counter-pressure, &c.*

Like all Dr. Hall's Memoirs highly ingenious.

IX.—ON DISLOCATIONS, ESPECIALLY OF THE HIP-JOINT, ACCOMPANIED BY ELONGATION OF THE CAPSULE AND LIGAMENTS. By *Edward Stanley*, F.R.S.

Mr. Stanley's object is to direct attention to the subject of dislocations of the larger joints, and especially of the hip, occurring under other circumstances than as the direct consequence of external violence, or of the destructive processes of inflammation. Mr. Stanley relates seven cases. We will give them as briefly as we can.

CASE 1.—*Dislocation of both hip-joints, consequent on disease of the spinal cord, and probably of the brain.*—A gentleman, aged thirty-nine, in the year 1824, was attacked with spasms in the pectoral and intercostal muscles, and numbness in the whole of the left side of the body, with the exception of the arm. In the left thigh and leg, sensation was wholly lost, the power of motion remaining. He had no sensation of passing his urine after it had quitted the bladder, and was but just aware of the evacuation of the fæces. Vision in the left eye was impaired to the extent that he could but distinguish daylight. These symptoms continued, with increasing weakness in the thighs and legs, to the complete loss of the power of support, and of sensation in them. With the impairment of the natural sensibility of the limbs, he occasionally suffered in them the most severe pains, sometimes attended with a smarting sensation, at others, with the sensation of a blow frequently repeated.

In March, 1828, he was attacked with violent spasms in his body and limbs, which compelled him to remain in bed several days. On rising from his bed when the spasms had subsided, he found, to his great surprise, his right lower limb so much shortened, that when erect he was but just able to touch the ground with his great toe, and at the same time he remarked

a protuberance at the upper and back part of the thigh. In the following December there was a repetition of these occurrences, but in the other limb, an attack of spasms being followed by shortening of it, with a protuberance at the back of the thigh, as on the opposite side. He could still bear the weight of his body upon his limbs, but was almost wholly unable to move them. At no period had there been tenderness, or other sign of inflammation in the soft parts around the hip-joints.

In June, 1831, Mr. Stanley noted the following particulars:—The spasms and the attacks of pain are chiefly confined to the chest and to the lower limbs; he suffers a distressing sensation of tightness with acute pain on both sides of the chest, in the direction of the ribs from their angles to the sternum. Movements of the arms excite this pain. Firm pressure by the hands against the walls of the chest greatly relieves it. There is paralysis of the rectus superior muscle of the left eye, and its sensibility to the impression of light is much weakened. In the erect posture there is a remarkable projection at the back of the pelvis, which, upon examination, is ascertained to be caused by the extremities of the thigh-bones occupying this situation. In rotating each thigh, the head of the femur can be felt moving freely beneath the glutei muscles. The trochanter major of each femur is thrown directly backwards. The distance between each trochanter and the head of the bone is natural. The head of each femur thus situated upon the posterior part of the pelvis is two inches and a half below the highest part of the crista of the ilium, and four inches distant from the anterior superior spine of the same bone. In the erect posture, there is a diminution in the stature to the extent of between five and six inches, and evidently from the pelvis sinking between the thighs. In the horizontal posture, the thighs can be readily pulled downward so nearly to their natural situation, that the shortening of the stature is then only to the extent of between one and two inches.

At the present time, the extremities of the thigh-bones are not so moveable as they were, apparently from the thickening and consolidation of the surrounding cellular tissue. There has been a gradual recovery of the power of directing the movements of the limbs, which is now sufficient to enable him to walk at a slow pace, with the aid of a stick.

Case 2.—*Dislocation of the hip-joint consequent on an attack of hemiplegia.*—A gentleman, aged 48, had been for above eight years affected with hemiplegia, chiefly perceptible in the left lower limb. He had been a courier, and he attributed his complaint to the severity and vicissitudes of weather to which he had been constantly exposed. Two years before his death, it became evident, as he moved about on crutches, that the affected limb had become considerably lengthened; this was accompanied by wasting of the limb, with a remarkable flaccidity of the muscles; and on rotating the thigh, the head of the femur could be so plainly felt, that it was concluded it must be out of its socket. This circumstance gave an interest to the case, which led to a careful examination of the hip-joint after death, when the following peculiarities were noticed: The capsule and the ligamentum teres were entire, but elongated to the extent of allowing the head of the femur to pass beyond the limits of the acetabulum.

Case 8.—*Dislocation of the hip-joint consequent on rheumatism.*—Mary Elsely, aged 32, admitted into St. Bartholomew's Hospital, December, 1837, on account of general febrile disorder, combined with pain in the left shoulder joint, in the right hip joint and down the front of the thigh. She was in the fifth month of pregnancy; her occupation was that of a hawker of brushes, which exposed her to the vicissitudes of the weather. She stated that she had been in good health until within a fortnight of her admission, when she was attacked first with pain in the right elbow and left shoulder-joints, and afterwards in the back of the right thigh. The pain varying in severity, was occasionally acute; on some days it was confined to the thigh, and on others was excruciating through the whole limb from the hip to the toes. Throughout there had not been more constitutional disturbance than might be referred to the amount of pain she endured. Her disorder was treated as rheumatism. Her complaints slowly subsided, and more than ten weeks had elapsed before she was able to quit her bed. On doing so, she discovered a shortening and distortion of the right lower limb. There was a dislocation of the head of the femur on the dorsum of the ilium.

Case 4.—*Dislocation of the hip-joint consequent on pain in the thigh, treated as sciatica.*—A woman, aged 30, was admitted into St. Bartholomew's Hospital in March, 1838. She had been servant in a gentleman's family at Hampstead, where her illness had commenced with a painful swelling of one of the joints of the right thumb. which, after a day or two, subsided, and was immediately succeeded by pain and stiffness in the right hip-joint, so far impeding its motions, that she was occasionally confined to her bed. She was seen at this period by several medical men, who considered the case to be sciatica, and treated it as such for between two and three months before her admission into the hospital. She now complained of pain in the right hip, but extending upwards to the loins, and down the thigh, with stiffness of the whole limb. The skin was tender on pressure through the course of the ischiatic nerve. Succussion of the whole limb by the application of force to the sole af the foot, and with the knee-joint extended, produced no pain in the hip-joint; and although the movements of the hip were impeded by the pain in the thigh and the general stiffness of the limb, yet she could bear the weight of her body upon it without much inconvenience. In the view still taken of the disease, as being sciatica, no other treatment was adopted than the administration of opium, with the application of mustard poultices to the limb. This treatment having been continued for some time without benet, she was removed to a surgical ward, when there was discovered to be a complete dislocation of the affected hip. This must have occurred in the hospital. There was no inflammation, but nervous excitement which gradually subsided. An attempt, of dubious utility, was made to extend the limb gradually by a pulley and weight.

Case 5.—*Dislocation of the hip-joint consequent on rheumatism.*—"I was consulted in June, 1836, respecting the propriety of attempting to reduce a dislocation of the hip-joint which had occurred under the following circumstances. A youth, aged fourteen, suffered, at Gibraltar, an attack of inflammation in both

hip-joints, with severe constitutional derangement, which was reported to be of the nature of rheumatic fever. He was confined to his bed above twelve months. Then, on beginning to move about, it was discovered that the right hip-joint had become dislocated, but he was wholly unaware when the dislocation had occurred. At the time of my seeing this patient, four years had elapsed since the commencement of his illness. His general health is now perfectly good. There is not the slightest pain in the hip or elsewhere, but the limb is everted and shortened, as ascertained by exact measurement, to the extent of three inches and a half. The trochanter major is greatly more prominent than in the opposite limb, and the head of the femur is readily distinguished through the glutæi muscles, having its proper relation to the trochanter consistent with the integrity of the neck of the bone, and with the everted position of the limb. Flexion and extension of the thigh are perfectly free. Rotation of the thigh inwards can be executed, but not outwards. The soft parts of the hip, and in its neighbourhood, are sound." 133.

Mr. Stanley did not attempt reduction.

CASE 6.—*Dislocation of the hip-joint, which occurred in the sixth week from a fall.*—A female, aged 14, in passing through a passage, the stones of which were slippery, fell upon the outer side of the right thigh. There immediately ensued a powerless condition of the limb, which was soon followed by severe pain and swelling in the front and outer part of the thigh, with spasms of the muscles. The surgeons summoned to the case could detect no deviation from the proper length and position of the limb, and accordingly expressed their opinion that the injury was confined to the muscles. At the expiration of a month there was no recovery of the power of using the limb, and the patient was in consequence removed to the sea side. Gentle efforts to walk were here made with the help of a stick, and at the same time the limb was every day placed in a vapour bath. At this period the patient occasionally remarked that she thought her hip was growing out; on one occasion, whilst using the vapour bath, she observed to her attendants that the projection of the hip had suddenly increased, and on examining the limb immediately afterwards, there was found to be a well-marked dislocation of the head of the femur. How this dislocation had occurred no opinion could be given; but the surgeon who had been in daily attendance was certain no dislocation had existed before the present time, which was in the sixth week from the occurrence of the fall. There was no tendency to inversion or eversion of the limb, and it could be moved freely in any direction, when the head of the bone might be felt rolling beneath the fingers placed upon the hip. The neck of the femur could be distinguished, and of its integrity there could be no doubt, from the movement of the head of the bone simultaneously with the trochanter, and from the preservation of the natural distance between the two prominences. Nothing but quietude was recommended. When about six months had elapsed from the occurrence of the accident, the patient, on rising from her bed, exclaimed that the projection of the hip had disappeared, and that her limbs were of the same length. A careful examination of the injured limb confirmed the statement of the return of the head of the bone to its socket, but it subsequently became again displaced; for at a later period, the head of the femur could be plainly felt on the dorsum of the ilium, and the limb was now shortened to the extent of three

inches, but still neither inverted nor everted. The power of using the limb was however progressively increasing.

CASE 7.—*Injury to the hip-joint, attended with shortening of the limb, from a fall upon the knee.*—A youth, aged 18, in walking, was thrown down by his foot striking against a pole which lay unperceived in his way. His face and left knee were the only parts bruised. But on being raised from the ground, he was unable to bear weight upon the left leg, and felt pain in the upper part of the thigh. He remained in bed until the pain in the thigh ceased, and then, on moving about, the limb was, as he stated, very feeble. Three months after the accident, the limb was in this state By comparison with the sound limb, there was found to be a diminution of the space between the anterior superior spine of the ilium and the top of the patella to the extent of two inches. There was no inversion or eversion of the foot. The head of the femur could not be anywhere distinctly recognized. The trochanter major was considerably more prominent than on the opposite side. All the movements of the thigh could be freely executed, and without pain. By moderate extension with the hands, the limb could be brought down to its natural position, when the unnatural prominence of the trochanter disappeared; but on remitting the extension, this prominence reappeared, and the limb became again shortened. No thickening or other morbid change could be discovered in the soft parts around the hip-joint.

Mr. Stanley remarks on the preceding cases :—

" In the first and second cases which have been related, the displacement of the head of the femur from the acetabulum occurred as a consequence of impaired nervous power, combined with spasms in the muscles of the limbs, in one case ascertained to be from disease of the spinal cord; and in the other, presumed, from the collateral symptoms, to be from the same cause. It may be affirmed that in the first, and very remarkable case, where both hip-joints were dislocated, there had been, at no period, inflammation in the joints or contiguous parts; and under such circumstances we must, I think, conclude that the pathological changes in these joints had been the elongation of their capsules and ligaments. In the second case, dissection showed such to be the condition of the joint, the capsule and ligamentum teres being lengthened to the extent of allowing the head of the femur to pass considerably beyond the acetabulum. We know that lengthening of the arm may be the consequence of paralysis of the deltoid and other muscles combining in their natural actions, to maintain the articular surfaces in contact. It may be said that the looseness and thinness of the capsule of the shoulder-joint permit no comparison of it with the dense, thick, and closely-embracing capsule of the hip-joint. However this may be, we have before us the fact of the lengthening of this capsule, and with it of the ligamentum teres, of which no other account can be rendered than that it was a consequence of impaired nervous power in the muscles surrounding the articulation.

In the third, and in the fifth case, the dislocation of the hip must be viewed as the consequence of rheumatic inflammation in the fibrous and synovial tissues of the joint; and in the fourth case, the dislocation may be ascribed to the same cause, although the disease had been treated under the name of sciatica. It can scarcely be a question, that in each of these three cases, the pathological changes were elongation of the capsule, with either the elongation or actual destruction of the ligamentum teres. The sixth and seventh cases are examples of injuries to the hip-joint from external violence in young persons, followed by a gradual shortening of the limb, which, from the attendant circumstances, can be

explained only by the yielding and consequent lengthening of the ligamentous tissues of the joint. In the sixth case, the head of the femur was gradually, and at a distant period from the injury, displaced from the acetabulum. In the seventh case, a similar change in the relations of the articular surfaces was indicated by the shortening of the limb, although the head of the femur could no where be distinctly recognized. Other cases have been reported to me of dislocations of the hip-joint, occurring gradually, and without inflammation, after injuries from external violence. Whatever difficulty there may be in explaining such a form of dislocation, the knowledge of the simple fact of the possibility of its occurrence is of much importance to the establishment of a correct diagnosis of the various injuries occurring to the hip-joint." 140.

Mr. Stanley goes on to remark, that it is well ascertained that inflammation of a mild character, whether rheumatic or otherwise, may, without evident change in the organization of ligamentous tissue, so far affect its property of resistance, that it will yield considerably to an extending force; thus, in the knee-joint, the crucial and lateral ligaments may become lengthened to the extent of permitting such a displacement of the articular surfaces, that, from the view of the outside of the joint, it might be inferred actual destruction of the ligaments had taken place; and it is to be observed, that these changes in the ligaments of a joint, very slow in progress, may be unaccompanied by pain or other symptoms of inflammation.

In the hip-joint, again, from inflammation of a mild character, and probably commencing in its fibrous tissues, there may be effusion of fluid into the capsule with the yielding of it, and of the ligamentum teres producing, first, an increased length of the limb, and an increase of its circumference in the district of the joint; and subsequently, on the head of the bone reaching the brim of the acetabulum, a shortening of the limb, as the capsule gradually yields to the action of the powerful muscles constantly tending to draw the limb upwards and backwards.

Mr. Stanley mentions a remarkable instance of *voluntary* dislocations of the hip, in a person whose capsules were preternaturally elongated by exercise. A boy, aged 18, was sent to St. Bartholomew's Hospital, in whom the following particulars were observed. His muscular system was remarkably well developed. When standing erect, he could, by the action of the muscles, throw the head of either femur out of its socket to the back of the pelvis, where it was felt projecting as in the ordinary dislocation from external violence, and as readily, still standing erect, he could, by renewed muscular effort, throw the head of each bone back again into its socket. It was remarkable that with such a degree of motion in the hip-joints, neither the firmness of his erect position, nor his power of progression, was in any degree impaired. They learned that he had been exhibiting feats at a country fair.

Mr. Stanley adverts to the supposition that in a proportion of the cases described, the primary injury was rupture of the ligamentum teres. This is rendered improbable by occasional absence as well as rupture of that ligament without injurious consequences.

Mr. Stanley adds, with a lengthening of the capsule of the hip-joint, it is unlikely that the head of the femur would be displaced in any other direction than upwards and backwards, with a corresponding shortening of the limb, the action of the *more* numerous and powerful muscles tending

to this result; and it may be presumed, that the precise situation of the head of the bone will then be between the glutæus minimus muscle and the dorsum of the ilium. An exception to this would occur in the yielding of the capsule consequent on a paralytic condition of the muscles, when an increased length of the limb may be its permanent character, as in the second case which has been related. With the lengthening of the capsule and the passage of the head of the femur upwards and backwards to the dorsum of the ilium, there may be inversion or eversion of the limb, or no inclination of it to one or other position. Whether these differences depend on the condition of the ligamentum teres, as this may be elongated or removed, future observation must determine. It will be remarked, that in the majority of the cases which have been related, the displacement of the head of the femur occurred so gradually, and with such a freedom from uneasiness in the part, that the patient was wholly unaware that changes so important were in progress; in fact, there was no suspicion of them before the discovery that the dislocation had actually taken place. The remarkable mobility of the limb in most of these cases is also to be noticed as another distinctive character of these displacements when contrasted with the ordinary dislocations of the hip-joint consequent on external violence, or on disease.

The preceding, like all Mr. Stanley's Papers, is indicative of his sound observation and sense.

X.—OBSERVATIONS ON THE ANATOMY OF THE LUNGS. By *Thomas Addison*, M. D.

Dr. Addison, than whom no man better merits attention, tells us that he hopes he has succeeded in demonstrating, almost beyond dispute—1st, that the aerial cellular tissue of the lungs is made up of well-defined, rounded or oval lobules, united to each other by interlobular cellular membrane, each lobule constituting a sort of distinct lung in miniature, having its own separate artery and vein; 2ndly, that these lobules do not communicate directly with each other; 3rdly, that they do not, as Reissessen and others have supposed, consist of the globular extremities of as many bronchial tubes, but, on the contrary, as my friend Dr. Hodgkin has suggested, are made up of a collection of cells, in which, by a common opening, a minute filiform bronchial tube abruptly terminates; 4thly, that the pulmonary artery accompanies the bronchi branch, for branch, to the minutest divisions of the latter; 5thly, that pneumonia consists essentially in inflammation of the aeriel cells; 6thly, that pneumonia and inflammatory tubercle are identical; 7thly, that acute pneumonia in moderately good constitutions scarcely ever leads to the formation of an abscess, unless deposit previously existed; but that when it occurs in cachectic or broken-down constitutions, or supervenes in the process of chronic or organic diseases, it occasionally causes one or more distinct and separate lobules to soften down into an ill-conditioned abscess; 8thly, that ordinary tubercles present the same varieties in the lungs, as they do in serous membranes; 9thly, that emphysema of the lungs consists chiefly of mere dilatation of the cells, but in part also sometimes of more or less extensive

laceration of them: and lastly, that the circumscribed gangrene of Laennec is commonly, if not uniformly, a mere effect or advanced stage of pulmonary apoplexy.

His present object, however, is merely to point out a hitherto unnoticed mode of distribution of the pulmonary vein.

In order, says Dr. Addison, to accomplish this demonstration, the pulmonary artery was injected with size, coloured red, whilst the vein was injected with the same material, coloured yellow; the lung was then laid aside and kept moistened in a cool place for several days, with the view of softening, by approaching decomposition, the connecting cellular membrane distributed throughout the lungs. In this way the common cellular membrane beneath the pleura became so lacerable that the pleura itself was stripped off without much difficulty, and without inflicting any breach whatever in the aeriel cellular structure of the lung, which it had covered. The lung thus divested of its pleura, presents to the eye, more or less distinctly, lines on its surface, which indicate the situation of what may be called the *pulmonary fissures*—a term more correctly applicable than that of interlobular, inasmuch as by the term interlobular is usually understood something situated between either the longer lobes or smaller lobules; whereas by the term *pulmonary fissures*, is meant certain spaces, occupied by common cellular membrane, and which descend from the surface towards the interior, but without penetrating the aeriel cellular tissue of the lung; thereby dividing more or less deeply the surface of the organ into a number of insular portions, some of which may comprise a great number of lobules. Guided by the linear indications on the surface of the now naked lung, we can in general, with the aid of a pair of points let into handles, or a pair of fine scissors, and without much difficulty, succeed in laying open and exposing the pulmonary fissures, at the bottom of which, merely surrounded by a loose cellular membrane, and resting on the unbroken aeriel pulmonary tissue, we discover a vessel; that vessel is the pulmonary vein, alone, and unaccompanied by any artery whatever. This vessel may be distinctly traced from larger to smaller trunks towards its source, until we reach the common cellular membrane between the ultimate lobules, from the exterior of which the vein appears to originate; whilst on the other hand, by continuing the mechanical operation towards the root of the lungs, we, with almost equal facility, trace the vessel, still lying at the bottom of the pulmonary fissures, and becoming gradually larger and larger by the addition of branches, which proceed into the pulmonary fissure, and are derived either from the neighbouring smaller pulmonary fissures, or from the uniting cellular membrane between the ultimate lobules themselves, until at length it joins the large trunks at the root of the lungs, to form the great pulmonary veins. A small artery is not unfrequently observed running across the pulmonary fissures, from a portion of lung on one side to a portion of lung on the other; and in one instance, Dr. A. found an exceedingly narrow strip of healthy lung passing like a bridge across the fissure, on the very surface of the lung.

Thus, then, the human lung may be said to be made up essentially of a vast expanse of membrane, the interior of which, during the whole of extra-uterine life is unceasingly exposed to the influence of atmospheric air, and upon the surface or in the substance of which, are spread out the

capillary ramifications of the pulmonary artery; these arterial capillaries passing from thence to the exterior of the membrane, to form the pulmonary vein, which throughout its whole course is found to be situated on the exterior of the aeriel cellular structure of the organs.

XI.—RESULTS OF AMPUTATIONS AT UNIVERSITY-COLLEGE HOSPITAL, LONDON, STATISTICALLY ARRANGED. By *John Phillips Potter*, Esq., late House-Surgeon. WITH SOME REMARKS ON THE MODE OF AMPUTATION AND METHOD OF DRESSING THERE ADOPTED. By *Robert Liston*, Esq.

The Reporter very properly insists on the utility of Statistical Reports from Hospitals and urges their more extensive publication. In this we cordially agree with him.

The number of cases of amputation in the University-College Hospital, from the last day of June 1835, to the termination of the year 1840, a period of six years and a half, has been 66, and of these, 56 have proved successful, whilst ten have been attended with fatal results, at a variable period of time after the performance of the operation.

Of the 66 cases, 11 were subjected to amputation on account of severe compound fractures and other injuries, the operations having been performed within 24 hours after the occurrence of the accident.

Out of these 11 cases of primary amputation, 3 terminated fatally, one in 7 days, one in 11 days, and one after the lapse of 48 days. The first of these fatal cases was of an unusually severe character, the patient having received, on the Birmingham Railway, compound fracture of both legs, fracture of the humerus, fracture of the ribs, and several severe contusions. In this instance both legs were removed, one in a few hours after the receipt of the injury, and the other a few days afterwards, in consequence of traumatic gangrene.

Seven out of the 11 cases recovered, and the stumps were healed completely, after the following times:—in 23 days, 30 days, 35 days, 48 days, 61 days, 75 days, and 1 after 146 days.

Table I, gives the parts which were amputated, and the results in each; from which it would appear that amputations on the lower extremity are, as might be expected, more dangerous to life than those of the upper extremity.

In the remaining 56 cases, amputation was performed on account of long-standing disease, or for injuries in which an attempt was made to save the limbs. Of this number, only seven died, giving a proportion of one death out of 8 cases.

Tables II. and III. give the parts at which amputation was performed, the nature of the different cases, and their results, together with the proportion of deaths under these different circumstances.

TABLE I.

	Cases.	Cured.	Died.
Arm	1	1	0
Fore-arm	2	2	0
Wrist	1	1	0
Thigh	2	1	1
Leg	3	2	1
Both Legs	1	0	1
Total	10	7	3

Proportion of Deaths barely 1 in 3 cases.

TABLE II.—56 *Cases of Secondary Amputation.*

	Number of Cases.	Cured.	Died.	Prop. of Deaths.
Shoulder	1	1	0	
Arm	7	5	2	1 in 3½
Fore-arm	6	6	0	
Thigh	20	17	3	1 in 6⅔
Leg	22	20	2	1 in 11
Total	56	49	7	

TABLE III.—*Nature of the* 56 *Cases of Secondary Amputation.*

Nature of Case.	Number of Cases.	Cured.	Died.	Prop. of Deaths.
Diseased joints	33	28	5	1 in 6⅗
Disease of soft parts	9	8	1	1 in 9
Compound fracture	6	5	1	1 in 6
Ulcerated and conical stumps	4	4	0	none.
Necrosis	3	3	0	none.
Tumour of bone	1	1	0	none.

TABLE IV.—*Ages of 66 Cases of Amputation.*

	Number of Cases.	Cured.	Died.	Prop. of Deaths.
From 3 to 10 years . . .	6	6	0	none.
From 11 to 20 years . . .	16	13	3	1 in 4¼
From 21 to 30 years . . .	17	15	2	1 in 7½
From 31 to 40 years . . .	10	7	3	1 in 2
From 41 to 50 years . . .	9	7	2	1 in 3½
From 51 to 60 years . . .	3	3	0	none.
From 61 to 70 years . . .	4	4	0	none.
From 75 years	1	1	0	none.

The Reporter observes:—In all cases above mentioned, the flap amputation has been preferred as an operation which, it is believed, is not only more quickly performed, and with much less suffering to the patient, but is attended altogether with better results both as regards the form of the stump and the rapidity of its cure. The instrument used for the operation is a straight-backed knife, with an edge gently curving towards the point, and of a length varying with the size of the limb to be removed.

With only one exception, (in which the ordinary tourniquet was applied,) the artery of the limb was commanded by the fingers of an assistant, compression being made with moderate firmness over the axillary or brachial arteries in amputations on the upper extremity; and over the upper part of the femoral artery in operations on the lower limb.

It is found that very little blood is lost when this plan is adopted, because well-directed pressure immediately over the course of the principal artery of the limb completely arrests the flow of blood through that vessel and its offsets, whilst it does not in the least interfere with the return of blood by the veins, which, from their thinner parietes, are the first vessels to be compressed when the tourniquet is applied.

After the removal of the limb also, when the principal arteries have been tied, the smaller vessels are quickly and easily secured by slightly varying the pressure of the finger.

Another advantage derived from this mode of arresting the flow of blood through the limb, is that the operation itself is more conveniently performed than when the tourniquet is used. When both flaps have been cut, they are forcibly retracted by an assistant, whilst by a few sweeps of the knife the bone is denuded for some distance, and sawn through considerably above the point at which the first puncture in the skin was made. Now where a tourniquet is employed, the retraction of the flaps must be interfered with, to a great extent; but where pressure is made by the fingers only, and the rest of the limb is left free, this part of the operation is per-

formed with perfect ease, and the motion of the saw, when applied close against the divided muscle, is not interfered with.

There have been 22 cases of amputation of the thigh—2 primary and 20 secondary. There were 4 deaths.

Nearly all the amputations of the leg were performed close to the tuberosity of the tibia, the stump being left only of sufficient length to rest firmly on the cushion of the wooden leg.

The stump is then completely covered by the dress; and, as it does not project much, it is not so liable to injury, or to become the seat of obstinate and painful ulceration, as is the case with stumps made at the middle of the leg or even a little higher.

Here again the ordinary flap amputation has been had recourse to; a short anterior flap of skin being first made by dividing the skin over the upper end of the tibia in a semicircular form, and then the knife being made to transfix the leg, (at a variable distance behind the tibia and fibula, according to the size and degree of muscularity of the limb,) in order to form a suitable posterior flap.

The portion of muscle thus taken into the posterior flap gives a firmness and roundness to the stump when healed; and does not, in most cases, increase the amount of suppuration, or retard the union of the parts. The only cases in which this mode of amputation is inconvenient, are those in which the patient is muscular and in robust health; as in primary amputations for severe injuries, for example. Under these circumstances the muscles do not appear to have the same power of retraction as in patients who have long been in a low state of health. They are therefore much in the way when the stump is dressed; and by projecting beyond the skin, they prevent its union by the first intention, and occasionally cause some sloughing of the parts.

In two cases where, from the muscularity of the patient, this inconvenience was anticipated, Mr. Liston varied the operation in the following manner.

The anterior flap was made longer than usual, by curving the incision downwards in a semilunar form, and reflecting the skin from the front of the tibia. A posterior flap was then made, also of skin only, and of about the same length as the anterior one. This was reflected from the surface of the gastrocnemius, and the deep structures divided down to the bones, which were separated from the muscles for a short distance before being sawn through.

In these cases the skin flaps healed with unusual rapidity; and the stumps were neat and well covered. In one case, union took place almost entirely by the first intention, and the patient was discharged cured in 25 days after the performance of the operation.

From the accompanying list it would appear that amputation of the leg is an operation which is not so frequently dangerous to life as might be expected. Out of 25 cases, 22 secondary and 3 primary, 22 were successful, giving a proportion of about 1 fatal case out of every 8.

Neither have these generally been found tedious cases; union by the first intention occurring frequently along half and sometimes nearly three-fourths of the line of meeting of the flaps, and the remaining portions granulating *without any great* amount of suppuration The average

period of time which these patients remained in the hospital before their stumps were completely healed was from forty to fifty days.

Mode of Dressing the Stump.—When ligatures have been tied around the principal arteries of a stump, the hæmorrhage from the smaller vessels (which are also tied in cases where the dressing is proceeded with immediately) is arrested by covering the recently-divided surfaces with lint soaked in cold water.

This is removed and re-applied every few minutes at first, and then at longer intervals, until all bleeding has ceased; and in order to insure the actual application of the cold water to the bleeding surface, the coagula are from time to time gently removed. When the patient begins to recover the shock of the operation, one or two of these smaller arteries perhaps spout out afresh. These, however, if necessary, are easily secured, as the flaps are still separate and exposed: the greater number of vessels, on the contrary, become plugged up with fibrine, and retract within their sheaths.

Thus all chance of disturbance of the dressing, by effusion of blood between the flaps, is prevented; and that without having so many sources of irritation present in the stump, as when many vessels are secured by ligature. Where the patient is unusually nervous and susceptible of pain, tepid water, changed more frequently, may be used in a similar manner.

When all oozing of blood has ceased, and when the divided surfaces become glazed over, (which happens generally in from four to seven hours after the operation,) the wet lint and small remaining coagula are removed, and the dressing of the stump proceeded with. The flaps, which are in the most favourable state for union, are now brought accurately together, and retained by several points of interrupted suture. The number of sutures requisite for this purpose varies from two to four; but more than three are seldom used, even in amputation of the thigh. They are removed frequently in twelve or twenty-four hours; but if the flaps are large and heavy, and the threads cause no redness in the neighbouring skin, they may be left for several hours longer, to prevent any dragging on the recent adhesions. When the flaps are thus in apposition, the edges are more closely brought together by means of strips of plaster applied over the face of the stump, at a little distance from each other, so as to allow of the ready escape of discharge, and the abstraction of the sutures when necessary.

Instead of using, for this purpose, the ordinary resinous plaster, which is a dirty application, readily loosened by discharge, and frequently causing irritation and erythema of the skin, a far more convenient material is found in oiled silk or gold-beaters' skin, spread with a solution of isinglass, which is allowed to dry. This plaster is sufficiently firm and tough to support the heaviest flaps; it is very adhesive, and being impervious to water, remains for many days without becoming detached; it does not irritate the skin; and, lastly, as it is quite transparent, the line of union may be seen distinctly through it, and additional support may, at any time, be given to a particular part, where it is seen that the lips of the wound are separating. This dressing is found perfectly sufficient for the first three or four days, or even longer in some cases; the stump being kept

gently elevated on cushions covered with oiled silk. No bandage is applied at first, but the stump is left uncovered and cool.

In general, very little inflammatory swelling takes place under these circumstances, and what little does occur is not accompanied with pain, because there is nothing to constrict the parts, and prevent their enlargement.

A bandage is seldom applied before the third or fourth day, though occasionally it is made use of earlier, where the stump is large and heavy, and the union by the first intention not as extensive as usual.

At first, however, the roller is not brought over the face of the stump, but is only allowed to approach the end by circular turns. By this means the discharge is not confined, and the strips of plaster are left undisturbed, these being quite sufficient to prevent the lips of the wound from separating.

When suppuration is fairly established in those parts of the stump which have not united by the first intention, the plaster is usually removed, either entirely or in part, and the end of the stump dressed with lint dipped in tepid water, or in a gently-stimulating lotion, and covered with oiled silk. The bandage also is then brought over the end of the stump in such a manner as to support the flaps together as the plaster hitherto has done. This simple kind of dressing has the advantage of being cool and clean: and as it may be easily removed, without much pain to the patient, it may be renewed daily.

Secondary Hæmorrhage.—In the sixty-six cases here collected, two instances occurred; both in amputation of the thigh. In one case the hæmorrhage proved fatal, as the patient was reduced to an extremely low state, by purulent discharge from the knee-joint, before he consented to amputation. The other patient recovered, after having, first the femoral and then the external iliac artery ligatured. This case is interesting, and may be related.

Case.—The patient, a swarthy middle-aged man, was admitted January 28th, 1839, with an immense ulcer over the front of the leg, which had existed for several years, and occasionally bled to a very considerable extent. There was also solid œdema of the lower part of the leg and foot, the skin and cellular tissue being greatly hypertrophied, and the epidermis developed into a kind of horny crust, similar to ichthyosis.

Though the foot was nearly twice its natural size, it was perfectly hard, and did not pit on pressure. The patient was prevented from working, and was beginning to lose his strength and appetite, when he applied, anxious to be relieved of his useless limb.

On the 4th of February he submitted to amputation of the thigh, the ulcer being too extensive to allow of the formation of sound flaps in the leg.

On the 12th of February, eight days after the amputation, secondary hæmorrhage occurred, which was, however, stopped by cold and pressure.

On the *following day* (13th) bleeding recommenced, but with much greater violence. Accordingly a ligature was placed round the femoral artery, just below *Poupart's ligament.*

On the 15th of February hæmorrhage to the amount of several ounces took place from a small artery (superficial external pudic), wounded in the operation of tying the femoral.

On the 27th of February the ligature came away from the femoral artery, without any bleeding, having been on only fourteen days.

On the 15th of March rapid bleeding occurred from the wound in the groin, which had nearly closed. This was for a time arrested by compression; but in the evening it again returned, and as the patient was excessively weak from a sloughing back, the external iliac artery was tied, as a last resource.

The *following day* several ounces of blood were again lost from the wound in the groin, but this was the last time of its occurrence.

On the 1st of April the ligature separated from the iliac artery, and the wound healed slowy but gradually. The patient after this by degrees recovered his strength and health, and was discharged the 5th of August, 1839. He showed himself at the hospital about a twelvemonth afterwards in excellent health apparently, and in full work.

A useful statistical contribution.

XII.—COLICA PICTONUM TREATED WITH WARM WATER. By *John Wilson*, M.D., Physician to the Middlesex Hospital.

To relieve the constipation that attends this disorder, it occurred to Dr. Wilson that if an enema were given during the time the patient was in a warm bath, it might then possibly be allowed to pass up the intestinal tube, and be retained so long as to accomplish the object of evacuating the intestines of their morbid secretion, and ultimately of restoring to them their healthy action.

Dr. Wilson relates six cases of constipation from lead, in which this plan was employed. One will be a sufficient sample of the whole.

Case.—May 15, 1838.—Matthew Proctor, age forty-five, for thirty years has been a plumber and painter; ill five days, with severe pain coming on in fits over the abdomen, so as to bend him double; has had no evacuation for five days past, though he has had mercury given, to which he attributes the present soreness of his mouth. Afterwards he had five doses of castor oil; yesterday he had three grains of opium in the morning and castor oil in the afternoon, when a mustard poultice was applied over the abdomen; still the bowels persist in the same state as they have been for the last five days. Now, abdomen very hard, but the severity of its pain is mitigated by pressure; tongue white; has had much sickness and frequent vomiting. This is his fourth attack of colic, but he has never had drooping of the wrists.

On admission he was put into a warm bath, and when he had been in it for some time, an elastic injecting tube was given him, with directions to employ it in trying to inject the water of the bath gradually up the intestines, and to persevere, should he feel no pain, nor unpleasant sensation, till he felt a sensation of fullness of the abdomen. In this he succeeded while he continued immersed in the bath; shortly after, and before he quitted the bath, he had an evacuation of lumpy fæces. After

leaving it, he was purged four or five times, and relieved from the pain. The next day he had an ounce of castor oil, ℥ xx. tinct. opii, and a sinapism to the abdomen. The third day the bath and enema while in the bath were repeated; after which, while he remained in the hospital, his bowels never required more than the mistura alba (sulp. mag. 3 ss., carb. mag. gr. v., in mint water,) two or three times a-day.

He had no relapse, and was discharged on the 27th.

Dr. Wilson had used the same simple remedy in cases of constipation dependent upon other causes. He relates one. We think that the profession must feel indebted to Dr. Wilson for the hint.

XIII.—Malposition of the Kidneys; Absence of the Vagina, Uterus, and Fallopian Tubes; Disease of Left Ovary. By *R. Boyd*, M.D., Resident Physician to St. Marylebone Infirmary, and Lecturer on Medicine.

Sarah Richardson, aged 72, died in the St. Marylebone workhouse of chronic disease of the brain and lungs.

The renal capsules were in their usual position, on either side the spine, immediately below the diaphragm. Right kidney situated in the right iliac fossa, below the cæcum, partially concealed by the right ovary, which had a slight peritoneal attachment to it. The renal artery was given off from the right iliac, close to the aorta.

Left kidney in the pelvis below the psoas muscle, resting on the sacrum and origin of the pyriform muscle. An artery which arose from the aorta at its bifurcation, in the situation of the middle sacral, entered the upper end of the kidney; another larger branch from the internal iliac artery, entered the kidney in the usual situation.

Kidneys, ureters, and bladder, in a healthy condition. Right ovary, when divided, presented the natural structure; to its upper or free extremity was attached, by a thin neck, small oval sac. A round ligament connected the ovary to, and was lost in, the cellular tissue behind the neck of the bladder.

The situation of the left ovary was occupied by a fibrous tumor of an irregular globular shape, connected by a round ligament smaller than that on the right side, but which took a similar course to the bladder.

The Fallopian tubes were not present. There was a slight projection of the peritoneum, behind the bladder, from cellular tissue beneath it. A careful examination of the parts in their recent state was made by Dr. R. Lee, also by Mr. Kiernan, afterwards by Mr. Perry,—no vestige of uterus could be discovered.

The external parts of generation presented no unusual appearance; the mons Veneris but thinly covered with hair: a *cul-de-sac*, about half an inch deep, beneath the orifice of the urethra, is all that exists of vagina.

Mammæ were well developed for so old a person.

As regards the previous history of this woman, the only information obtained was, that she had been married, but did not live on amicable terms with her husband.

In the *case of Hannah Brown*, murdered by Greenacre, the absence of *the uterus was observed as in this* instance.

XIV.—PATHOLOGICAL AND SURGICAL OBSERVATIONS ON THE DISEASES OF THE EAR. By *Joseph Toynbee*, Esq.

Mr. Toynbee has been led to believe that deafness must very frequently depend upon a morbid condition of the fibro-mucous membrane lining the cavity of the tympanum. He refers to the observations of Mr. Swan, who relates the particulars of three dissections in which the mucous membrane of the cavity of the tympanum was diseased and thickened, so that the nervous plexus of Jacobson could not be distinguished. One of these cases occurred in an old woman, the second in a man, and the third in a very young woman. In the second case there was also some roughness of the bone. After detailing these appearances Mr. Swan writes—"I believe deafness does not so often depend on a disease of the auditory nerve as has been supposed, but much more frequently on an inflammatory action attacking the membrane lining the tympanum, and involving the small branches of the tympanine nerves." He adds, "although many of the noises may depend on the disordered functions of the auditory nerve, I think they may arise too from these small branches of the glosso-pharyngeal and their communication with the sympathetic in the carotic canal."

Mr. Swan goes on to remark:—

"The consideration of the distribution of the tympanine branch of the glosso-pharyngeal nerve, leads to the conclusion that the tympanum performs more important functions in the production of hearing than have been usually ascribed to it, and that the failure of remedies in cases of deafness which have been termed nervous, may have proceeded very much, not only from the obscure situation of the tympanum, but from the misapplication of the remedies themselves. And I conceive, therefore, as a thickening of the membrane lining the tympanum and involving such delicate nerves, can be so often observed, that many diseases of the ear may be more within the reach of art than has been contemplated, and that by subduing the inflammatory action at its very onset, before the structure of the delicate parts has become so much changed as permanently to impair their functions, many of the worst cases might be prevented." 193.

Mr. Toynbee relates forty-one dissections of which the following is an abstract.

1 In a healthy state	10
2 With simple thickening of the investing membrane	6
3 With membranous bands proceeding from various parts of the cavity of the tympanum, most frequently connecting the stapes to the circumference of that cavity	4
4 With slight thickening of the investing membrane, accompanied by the existence of membranous connecting bands	13
5 With considerable thickening of the investing membrane and with membranous bands	5
6 With suppuration of the cavity of the tympanum	1
7 With anchylosis of the base of the stapes to the circumference of the fenestra ovalis	2
	41

Mr. Toynbee adds;—"It must appear remarkable that, in thirty-nine specimens of the organ of hearing, taken promiscuously, there should be so large a majority which present appearances indicative of disease. I must observe, however, that in several dissections, and more particularly those in which there exist delicate membranous bands, connecting together various portions of the mucous membrane, without the latter being thickened, the deviation from the healthy state is so very slight, that it may be presumed there was not any accompanying derangement of the functions of the organ. The large proportion of specimens which are undoubtedly in a diseased state is very surprising, but it may be less so perhaps when I state that many persons whom I have examined, and who have considered that they *hear perfectly well*, cannot distinguish the ticking of my watch at a distance of two feet and a half, and in some cases, of four or five inches only; though the same watch can be heard distinctly by a healthy ear seven or eight feet from the head. I am thus induced to believe that the function of the ear is impaired much more frequently than is generally supposed; but that such impaired function is not detected without special inquiry. It would be interesting to know whether such derangements are dependent upon the peculiar conditions of the investing membrane of the tympanic cavity, which I have had ocasion so frequently to notice in my relation of the above dissections."

"Since the above Paper was read, my attention has been directed to a paper published in the 110th volume of the Philosophical Transactions, entitled, 'On Sounds inaudible by certain Ears, by William Hyde Wollaston, M.D., F.R.S.' The object of the author is to show that there is a very distinct and striking difference between the powers of hearing of different individuals. I am inclined to believe that the deficiency of the power depends upon some pathological condition of the ear, perhaps of a nature similar to that which I have pointed out. Dr. Wollaston states that it never occurred to him to find this defect in any person under twenty years of age—a fact which favours the opinion of its being dependent upon disease or derangement of the organ." 211.

From what we know of Mr. Toynbee, we are satisfied that whatever subject he takes up, he will do ample justice to. We may expect some additions to our knowledge of the pathology of the ear.

XV.—TWO CASES OF DISLOCATION OF THE TENDON OF THE LONG HEAD OF THE BICEPS HUMERI FROM ITS GROOVE. By *John Soden*, Jun., esq., Surgeon, Bath.

Case 1.—In May, 1839, J. Cooper was engaged in nailing down a carpet, when, on rising hastily from his occupation, his feet slipped, and he fell backwards on the floor; in order to break the force of his fall, he involuntarily placed his arm behind him, and, by so doing, received the whole weight of his body upon the right elbow; that joint, however, though the only part struck, received no injury, for the shock was instantly transmitted to the shoulder, and there the whole effects of the accident were sustained.

Acute pain was immediately experienced, and the man supposed that he had suffered either a *fracture* or dislocation, but, finding that he could *raise the arm over his head, he felt* re-assured, and endeavoured to resume

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his work. The pain, however, compelled him to desist, and he went home. When Mr. Soden saw him on the following morning, the joint was greatly swollen, tender to the touch, and painful on very slight motion; there was then no possibility of his placing his arm over his head, as he said he had done immediately after the accident. Mr. S. thought the case one of severe sprain. Unusually active means were required to subdue the inflammation, and, at the end of three weeks, though the swelling was much reduced, the tenderness in front of the joint, and pain on certain movements of the limb, were scarcely less than on the day after the occurrence of the accident.

On comparing the joint with its fellow, now that the swelling had subsided, a marked difference was observable between their respective outlines; the injured shoulder was evidently out of drawing, but without presenting any glaring deformity. When the man stood erect, with his arms dependent, the distinction was very manifest, but difficult to define: there was a slight flattening on the outer and posterior parts of the joint, and the head of the bone looked as though it were drawn up higher in the glenoid cavity than it should be. Examination verified this appearance in two ways: 1st, on moving the limb, with one hand placed upon the shoulder, a crepitating sensation was experienced under the fingers, simulating a fracture, but, in reality, caused by the friction of the head of the humerus against the under surface of the acromion; 2ndly, on attempting abduction, you found that the arm could not be raised beyond a very acute angle with the body, from the upper edge of the greater tubercle coming in contact with that of the acromion, and thus forming an obstacle to all further progress. The head of the bone was also unduly prominent in front, almost to the amount of a partial dislocation.

For all useful purposes the arm was powerless—the man was unable to raise the smallest weights from the ground, on account of the severe pain induced by any exercise of the biceps muscle; otherwise, the underhand motions were not limited, the arm could be readily swung backwards and forwards, and the patient could grasp an object firmly, and without pain, so long as he made no attempt to raise it. The locking of the humerus and acromion on abduction, in the manner before alluded to, of course formed an insuperable opposition to all the overhand motions.

The pain caused by the action of the biceps was described as very acute, and extending through the whole course of the muscle, but felt chiefly at its extremities, the lower equally with the upper; when not excited by muscular action, it was referred to the front of the joint, and confined to the space between the coracoid process and the head of the humerus, which spot was marked by extreme tenderness and some puffy swelling.

The patient being of a rheumatic habit, inflammatory action of that character was soon established in the joints, so that the peculiar symptoms of the injury were masked by those of general
which added greatly to the man's sufferings, and
difficulty of the diagnosis.

On Nov. 9, 1839, the patient met with a con
and died.

On examining the joints, the accident was
the long head of the biceps from its groove, un

injury. The tendon was entire, and lying enclosed in its sheath on the lesser tubercle of the humerus; the capsule was but slightly ruptured; the joints exhibited extensive traces of inflammation; the synovial membrane was vascular and coated with lymph; recent adhesions were stretched between different parts of its surface, and ulceration had commenced on the cartilage covering the humerus, where it came in contact with the under surface of the acromion; the capsule was thickened and adherent, and in time probably anchylosis of the joint would have taken place.

Mr. Soden thinks that the biceps may act as an antagonist to those muscles of the shoulder-joint, which tend to pull the humerus up. With this consideration, he says, of the tendon of the biceps in its capacity of a capsular muscle, we can understand why, when the tendon is ruptured or displaced, the head of the bone should rise upwards and forwards,—a precisely opposite direction to that in which the tendon would, when *in situ*, tend to direct it.

Case 2.—William Mountford, ætat. 55, was admitted into the Bath United Hospital, on the 24th of April last, having been severely injured by a quantity of earth falling upon him. He had sustained, in addition to some severe contusions, a dislocation forwards of the humerus, and fractures of some of the ribs on the same side. The man lingered for a few days, and died from hæmorrhage in the cavity of the chest, in consequence of the lung having been perforated by a fractured rib.

Unusual difficulty had been experienced in the reduction of the dislocation, which was very high up, but it had been at last effected.

On examining the joint, a rent was discovered in the capsule on its inner side, through which the head of the bone had passed; the sheath was torn up, and the tendon having escaped, had slipped completely over the heads of the bone, and was lying at the inner and posterior part of the joint.

I consider that the difficulty of reduction was attributable to the complication of the injury of the biceps, for the inferences from the former case would lead us to expect that, had the tendon been *in situ*, it would have aided the return of the bone; but its influence being removed, the resistance of the upper capsular muscles became doubled, and twice the amount of force was consequently required to overcome it. This may be considered as a rule applicable to all dislocations forwards, where the head of the bone is not thrown *below* its original level.

XVI.—AN ACCOUNT OF TWO CASES OF ANEURISM OF THE SUPERIOR MESENTERIC ARTERY, IN ONE OF WHICH JAUNDICE WAS INDUCED BY PRESSURE OF THE SAC. By *James Arthur Wilson*, M.D., Physician to St. George's Hospital.

—Ann Pinchin, widow, aged 24, admitted under Dr. Wilson's care,
'f this year. She had been ill four months, and her general ap-
'as that of great depression and exhaustion. The case in its
nted the usual symptoms of jaundice in a very aggravated
very little influenced by the means employed for its relief,

and was remarkable principally for the severity of the pain complained of between the shoulders, along the track of the six or eight lower dorsal vertebræ. There was also occasional pain in the epigastrium and right hypochondrium,* both of which regions were carefully examined from time to time, without any information being thus obtained as to the immediate cause of the disease.

There was great dejection of mind, with entire loss of appetite and want of muscular power; the skin became more intensely coloured as the case advanced to its termination, and the saliva voided at this period of the disease stained the linen, on which it was received, of a deep yellow colour; there was also distinct evidence of the same tint in the menstrual flux, which occurred twice during the seven weeks that the patient passed in the hospital. She died April 12, in a state of great general exhaustion, much aggravated by a mercurial salivation, following the administration of some small doses calomel and opium.

The body was examined April 13th, twenty-four hours after death.

On removing the integuments, a stain of yellow was observed generally throughout the fat, and the exposed inner structures of the body. In the duodenal region, on raising the liver from the subjacent viscera, a large globular tumor was seen extending itself from behind the head of the pancreas upwards, forwards, and outwards, to the right side of the body, in the direction of the ductus communis choledochus, so as to occupy the greater part of the space usually defined by the laminæ of the small omentum. The tumor was smooth on its surface, of firm texture, and was found to be the sac of an aneurism, situated in the trunk of the superior mesenteric artery, commencing about an inch from its origin, and extending itself in the directions mentioned.

The ductus communis was in close and prolonged contact with the walls of the sac, by which it was compressed in its whole extent; it was, however, pervious to the probe, and bile could readily be squeezed from its orifice into the duodenum.

The liver was of a dark livid tint, but was healthy in its general structure; its pori biliarii were universally enlarged and greatly distended with bile, so that the diameter of many of these vessels exceeded that of the larger gall ducts in ordinary cases. The gall-bladder contained a large quantity of healthy bile, with a few small gall-stones.

Dr. Wilson very judiciously observes:—

"Although the instance I have described of jaundice depending on aneurism of a large branch of the aorta be a solitary one, yet, by the recollection of it, in protracted and intractable cases of the disease, we may be the more impressed with the necessity for making close and frequent examination of the upper region of the abdomen, by the *ear* as well as by the eye and the hand, during the continuance of the symptoms.

It may likewise teach us caution in our estimate of the probable duration of cases of this disease, and in our conjectures as to the mode of their termination.

If jaundice be occasionally the effect, simple and direct, of pressure on the

* The pain was very severe, and returned in paroxysms with marked intervals of suspension.

gall-ducts by an aneurism of a large branch of the abdominal aorto, then, in the treatment of cases classed under this name of jaundice, it will be well to remember that they may sometimes close with the awful suddenness of hæmorrhage from the main trunk of the circulation.

For such possible termination of a disease, chronic in its general character, and not usually considered as dangerous, the friends of the patient, in all cases warranting suspicion, should surely be prepared.

I am, moreover, willing to hope, that the relation of this case may tend to establish one caution the more against the mischievous routine of practice, now happily less frequent among reflecting physicians, of administering mercury in all cases of supposed 'liver affection,' and of jaundice, as included among such 'affections.'" 225.

Case 2.—William Frost, coachman, aged 42, admitted Feb. 11, 1835, complaining principally of a tumor pulsating in the epigastric region. It was of the size of a small orange, and, as he lay flat on his back, was observed to project rather to the left of the scrobiculus cordis. It was painful on pressure, and was moveable in nearly every direction, but most easily so towards the left side.

When the patient turned on this side, the tumor "fell at once under the ribs," and could no longer be felt.

On his turning to the *right* side, the tumor fell over in the same direction, and could still be distinctly felt in the front and to the right of the epigastric region.

Two or three months before his admission, he had suffered much from shortness of breath, with pain in the loins, and "between the shoulders," along the lower dorsal vertebræ. In a fortnight after his admission, he became very costive, and was attacked by cough, with profuse hæmoptysis, for the first time since his illness. From this time until the death of the patient on July 10th in the same year, large quantities of blood were frequently brought up by cough, and latterly by vomiting. The blood drawn from the arm subsequently to these attacks, and for the relief of other symptoms, was always more or less cupped and buffed; the pulse was never irregular, and generally of moderate frequency. As the case advanced, the costiveness became obstinate, the appetite failed, the pain between the shoulders, along the lower dorsal vertebræ, became more severe, and there was much occasional suffering from cramps in the legs, with numbness and tingling in them, as in the arms and hands.

The tumor became more and more tender to the touch, and, some weeks before death, was observed to have changed its position from the *left* to the *right* side of the epigastrium.

Towards its close, the case presented many phthisical symptoms, and under these the patient gradually sank.

On examination after death, the aneurismal sac in this case, as in the other, was found to be situated in the trunk of the superior mesenteric artery. It was large, kidney-shaped, extending *upwards*, *forwards*, and *outwards*, to the right side of the body, thus raising with it the pancreas, which viscus lay on the upper boundary of the tumor.

The walls of the sac, especially in front, were firm and thick, and were enveloped by a transparent layer of peritoneum. The sac communicated directly with the *aorta, by a long* and wide opening with a smooth edge.

It contained many coagula; those next to the aorta were loose and black, in the front of the sac; they were very firm in texture, much laminated, and of a gray colour.

The larger branches of the superior mesenteric artery were distinctly recognized at the projecting end of the sac; they were open, and pervious to the blow-pipe, which passed readily, from them, through the loose coagula of the sac into the aorta.

The cœliac and superior mesenteric arteries were given off as usual from the aorta, and, with it, were healthy in their structure. The lungs were extensively diseased by vomicæ, and by tubercles of the common kind.

Dr. Wilson remarks:—

"It may be observed, that the two cases, which I have now described, of aneurism of the trunk of the superior mesenteric artery, do not present many symptoms in common: they were respectively distinguished during life, the one by jaundice, the other by vomiting of blood.

Both cases were remarkable for the severity and constancy of the pain in the *middle* of the back, referred by both patients to 'between the shoulders.'

The difference in the leading symptoms of the two cases to which I have alluded, finds its explanation in the difference of the situation of the aneurismal sac in relation to the pancreas, the liver, and the surrounding structures." 230.

XVII.—ON CONGENITAL TUMORS OF THE PELVIS. By *Edward Stanley*, F.R.S., Surgeon to St. Bartholomew's Hospital.

Mr. Stanley observes that there are various forms of congenital tumor attached to the pelvis, the discrimination of which becomes of much importance with reference to the question of their removal by operation.

In 1836, Mr. Stanley was requested to see a child, four months old, born with a soft pendulous tumor, about the size of an orange, attached to the lower and back part of its body. In every other respect the child appeared to be perfectly formed and healthy. With the growth of the child, the tumor progressively increased, and in proportion to the rest of its body; it continued to thrive well to the age of two years, when it was attacked by measles, with other children of the family, producing much constitutional derangement, under which it gradually sunk. At the time of its death, the following were the dimensions and general characters of the tumor; its circumference measured fourteen inches and a half; a line extending from its base to the most prominent point of its centre measured four inches and a half. The base being very broad, covered the whole of one buttock, and extended across the sacrum to the opposite side of the pelvis. The skin covering the tumor was natural; some large and tortuous veins were seen ramifying in the subjacent cellular tissue. Upon some parts of the tumor there were shallow grooves, which were supposed by many who examined the case to correspond with depressions between folds of intestine within the tumor. The surface of the tumor was generally soft, but in some situations, portions of a firm substance, resembling isolated pieces of cartilage, were recognized in it, and it was remarked that these points of resistance were not always to be felt in the same situation. Pressure of the tumor did not cause a diminution of its size, so as to justify the belief that any portion of it receded into the body. A finger

passed into the rectum discovered a portion of the tumor extending into the cavity of the pelvis by the side of the intestine. When the child cried loudly, the tumor became tense; this showed its communication with the interior of the body, and it was thought by some to indicate the probability of its communication with the spinal canal, in accordance with the views of Magendie, that there occurs a movement of the contents of the spinal canal in connexion with respiration, and dependant on distention of the vessels of the cord and its membranes.

Many surgeons had seen the case. Mr. Blizard alone thought the removal of the tumor practicable.

A cast of the tumor was first taken, and then its interior was examined. This was found to consist of an assemblage of different tissues. One portion of it was solid throughout, and closely resembling in its characters the ordinary fibrous tumor of the uterus. Another and larger portion consisted of two cysts, one enclosing the other; the sides of these cysts were membranous, and their texture dense and fibrous, each cyst containing a transparent yellow fluid. A narrow and solid portion of the tumor was found to extend through the inferior aperture of the pelvis upwards within its cavity, nearly to the top of the sacrum, chiefly occupying the right side of the pelvis, and in consequence compressing the bladder and rectum, not, however, apparently to the extent of materially interfering with their functions. There was no attachment of the tumor to the sacrum, otherwise than by loose cellular tissue. The sacral canal was completely closed, and accordingly had no communication with the tumor. The information derived from the examination of the extent and connexion of the tumor appeared to confirm the opinion that its removal might have been safely undertaken in an early stage, when, from the smaller extent of the tumor, it might have been practicable to draw downwards the portion of it from within the pelvis, as it had no other connexions with the surrounding organs than by loose cellular tissue.

Mr. Stanley introduces several cases for which we must refer to the Transactions themselves. His inferences from them are deserving of notice. He says that the cases on record admit of being arranged in four classes.

First. The cases wherein the tumor is composed wholly of morbid structures, which, although formed during fœtal life, have no peculiar character, the solid tissues mostly resembling the ordinary fibrous tumors of the uterus, and the membranous cysts being analogous in their nature and contents to the corresponding anormal structures formed at other periods of life.

Secondly. The cases wherein the tumor is composed of morbid structures in conjunction with isolated portions of perfectly-formed animal organs, having no other relation to the living being with which they are connected, than as they are dependent upon it for the means of nutrition and growth. These cases must be considered to belong to the class of parasitic monsters, constituting intra-fœtation, the inclusion of one fœtus within another, and, in accordance with the present theories on this subject, supposed to result from the cohesion or intus-susception of germs, when more than one ovulum is contained in the same vesicle, under which circumstances there will arise either the union of two perfect fœtuses, as in the instance of the Siamese twins, or the growth of one fœtus to its perfect form, with but the portion of another fœtus attached to it, as in the remarkable case recorded by Velpeau, where a tumor which was re-

moved from the scrotum of an adult was found to consist of several bones, with other distinct parts of a fœtus.

Thirdly. The cases wherein the tumor, being of the nature of spina bifida, consists of a membranous cyst, communicating with the interior of the theca vertebralis.

Fourthly. The cases wherein the tumor is composed either wholly, or in part, of membranous cysts, communicating with the spinal canal, but exteriorly to the theca; thus in one of the cases related, a probe passed from the cyst, of which the tumor in part consisted, through one of the anterior sacral holes into the cellular tissue between the theca of the cord and the bony walls of the canal.

It will be observed, that in all the cases noticed in this paper, the congenital tumor projected from the posterior and inferior part of the pelvis; its situation, consequently, was such as to allow of removal by operation, but from the apprehension that there might be some deeper portion of it extending to the interior of the pelvis, and more especially from the apprehension that the tumor might be of the nature of spina bifida, and accordingly that its interior would be found to be continuous with the membranes of the spinal cord.

We learn from the foregoing histories that the general character of these congenital tumors, whatever may be their nature, is to increase progressively, and in proportion to the rest of the body; hence arises the important question of their removal: and it must be added, that this question will in general be extremely difficult of decision, for the reason that no outward mark or symptom can be referred to as distinguishing the tumor composed wholly of morbid products, and having no other connexion with the body of the child than by cellular tissue, from the tumor which, by the continuity of its interior with the membranes of the spinal cord, is of the nature of spina bifida; yet the operation of removal, in one case accomplished with a fair prospect of success, would, in the other, be certainly fatal. And, accordingly, it has happened in one of these cases, that an operation commenced with the expectation of a successful result, has been stopped in its progress by the discovery of a pedicle extending from the tumor to the interior of the spinal canal. Mobility of the congenital tumor does but indicate the probability of its having no connexion with the vertebral canal, as the means of this connexion may be a narrow pedicle, permitting free movement of the tumor upon the walls of the pelvis. Also to the existence of a narrow pedicle and a small opening of communication with the vertebral canal, we may refer for explanation of the frequently observed fact of pressure of the tumor causing no portion of its contents to recede into the canal, and thus occasioning symptoms of compression of the spinal cord or brain. Any derangement of the nervous functions in the lower limbs would of course be evidence of the probability of the connexion of the tumor with the spinal cord; but it must be recollected that the instances are not infrequent of spina bifida co-existing with a perfect integrity of function in the spinal cord and its nerves.

A circumstance of physiological interest will be noticed in two of the foregoing cases, namely, the existence of a fluid in the isolated portion of intestine within the parasitic monster, which in colour and other obvious characters closely resembled meconium, although there existed no liver or other distinct hepatic apparatus which could have furnished the colouring matter of this fluid, and there was certainly no communication between this portion of intestine and the intestinal canal of the child to which the parasitic monster was attached. An analogous fact occurred to my observation, many years ago, in the examination of an acephalous lamb, in which, with perfectly-formed stomach, intestines, spleen and kidneys, the liver was wholly wanting, and yet within the intestines, especially, the large, there was found a considerable quantity of a dark yellow and thick fluid, [not to be distinguished by its appearance from meco-

nium. When diluted, the colour of this fluid was exactly that of healthy bile, but it was not bitter to the taste, and in this respect it differed from the perfect meconium of the human fœtus, which imparts to the tip of the tongue the peculiar bitter flavour of bile." 244.

An instructive communication.

This completes our account, itself complete, of the volume before us. A volume fraught with practical information, and reflecting honour on the Society and the Profession.

TRAITE DES MALADIES DES REINS, &c. Par *P. Rayer*. 3 tomes. Paris, 1839-40-41.

IN our last number we submitted to our readers' attention a lengthened review of M. Rayer's Researches on that form of Renal Disease, which has of late years excited so much interest among medical men, and is known under the names of Albuminuria, Albuminous Nephritis, or Morbus *Brightii*. On the present occasion we shall complete our notice of these important volumes, by briefly analysing the chapters on the simple, the gouty, and the rheumatic forms of inflammation of the kidneys, on Pyelitis or inflammation of their pelves and calices, and on Hæmaturia, occasional and endemic.

Under the generic term of Nephritis have been comprehended all the inflammations of the various tissues which enter into the organization of the kidneys,—not only of the renal substance, properly so called, but also of its membranes, its vessels, and of the excretory ducts of the urine. It is unnecessary to say how faulty such a classification must be. As well might we groupe under one term the different kinds of pneumonia, and pleurisy and bronchitis at the same time.

M. *Rayer* has endeavoured to disentangle this confused web; and, basing his conclusions on a most elaborate examination of facts drawn partly from his own experience and partly from the writings of others, he has been led to propose the following catalogue of the inflammatory diseases of the renal organs.

1st *groupe*.—NEPHRITIS, or inflammation of the cortical, or of the tubular substance of the kidneys.

This groupe comprises—1, simple nephritis; 2, nephritis from morbid poisons; 3, arthritic nephritis (gouty and rheumatic, &c.); 4, albuminous nephritis.

2d *groupe*.—PYELITIS, or inflammation of the pelves and calices of the kidneys.

The principal species of this groupe are—1, simple pyelitis; 2, blenorrhagic, or gonorrheal pyelitis; 3, calculous pyelitis; and, 4, verminous pyelitis.

3d *groupe*.—PERINEPHRITIS, or inflammation of the cellular and fibrous coverings of the kidneys, or of the fatty cellular tissue which surrounds them.

The different inflammations arranged under these three heads differ from

acid and its salts is less than in health; but the diminution is much more considerable in the latter than in the former variety of the disease.

One of the most formidable consequences of nephritis is unquestionably the great diminution, or perhaps the complete suppression, of the urinary secretions, and the cerebral symptoms which are apt to ensue upon such a condition. In certain cases of typhoid and other fevers there is a tendency to this state of things supervening. We need not add that the most prompt and vigorous treatment is required to save the life of the patient. In the worst set of cases the kidneys become more or less decidedly gangrenous: this termination of nephritis has also been observed after death from certain poisons.

The *chronic* form of simple nephritis is probably of much more frequent occurrence than the *acute*. The descriptions hitherto given of the disease by different writers have generally been far from accurate; in consequence of their confounding inflammation of the pelvis and calices with that of the tubular or cortical substance of the organ. Whenever the urine has been decidedly purulent, and pain and uneasiness in the loins, extending down along the course of the spermatic cord, have been felt, the case has been regarded as one of *nephritis*; whereas these, properly speaking, are the symptoms rather of *pyelitis* than of it.

According to the observations of M. Rayer, the diagnosis of chronic nephritis is often utterly impossible unless the urine is attentively examined. "Constant pains in one or in both of the renal regions, co-existing with a diminished acidity, or with a neutral, or still more with an alkaline state of the urine—whether there be a retention or not of this secretion—and with a sense of feebleness in the lower limbs, are the principal characters of the disease."*

When the urine is alkaline, it is usually opaque or cloudy, unless the proportion of the phosphatic salts is very small indeed. The sediment is generally found to be composed of the ammoniaco-magnesian phosphate, and of phosphate of lime, with or without a small quantity of the urates, and with more or less mucous matter combined. "In fine," adds M. Rayer, "chronic nephritis is one of the most favourable conditions for the production of phosphatic calculi."

The effects of appropriate treatment will sometimes very beautifully confirm the diagnosis which we may have formed. Thus, after the application of the cupping-glasses and the use of a mild unirritating diet, the urine, which for some time before had been thick and decidedly alkaline, may be found to become transparent and to recover its normal acidity—perhaps again to return to its unhealthy condition in consequence of some irregularity of diet, or of fatigue, or of exposure to cold, &c.

The symptoms of chronic nephritis being often so very obscure in themselves, and rendered still more so by their not unfrequent alternations of

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* The renal pain, which by-the-bye is in most cases obscure, and is felt only when pressure is made on the loins, seldom extends, according to the experience of our author, in the direction of the ureter, and is almost never accompanied with pain in the testicles. In general, the urine is voided frequently, and only in a small quantity at a time.

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amendment and aggravation, it becomes the duty of the physician to be much on his guard in his diagnosis of many cases. Often the disease has continued for months or even years, before the patient applies to a medical man for relief; and, even when he does, he is not at all aware that the primary seat of his distress is in the renal region. The pain there may be so trifling as not to attract his notice, unless firm pressure be made over it; and the increasing frequency of calls to urine may have come on so gradually that he has never thought it worth while to mention the circumstance.

When chronic nephritis has attacked both kidneys, its principal symptom is the slow and progressive deterioration of the general health. This cachetic state favours the development of many other diseases, especially obstinate catarrhs and pulmonary consumption.

M. Rayer describes at great length the various morbid appearances which simple nephritis, both in its acute and in its chronic form, is apt to induce in the kidneys and in their coverings; but we cannot enter into this subject, as it would require much more space than we can allow to give an accurate idea of his, perhaps too elaborate, descriptions.

After discussing the diagnosis of the disease, he makes some good remarks on the prognosis which should be formed in certain cases. He dwells particularly on the danger of nephritic attacks in patients who have long laboured under any disease of the bladder, prostrate gland, or urethra; more especially if such attacks have come on after a surgical operation, such as lithotomy, lithotrity, or even the introduction of a sound. Under such circumstances the invasion of nephritis is often very sudden and proves very rapidly fatal. Many an old man, who may have been for years affected with an incontinence of urine, but whose general health had remained good, is carried off very quickly, if the kidneys once manifest the symptoms of renal inflammation. This circumstance should therefore be strongly impressed on the minds of all medical men.

M. Rayer alludes to the occurrence of nephritis in parturient women in the following passage:—

"In recently-delivered women, an attack of nephritis is sometimes preceded or accompanied by inflammation of the ovarian veins. The existence of pain in the renal region requires that the state of the uterus and its appendages should be examined with the greatest care. Like every other sort of inflammation occurring in parturient women, nephritis has a great tendency in them to terminate in suppuration. In spite of the fatigue and exhaustion which follow delivery, we must have recourse to free blood-letting, and this with the greatest promptitude, as the disease is often overlooked for the first day or two after its invasion; the lumbar pains having been regarded merely as one of the effects of the labour."

In all cases of chronic nephritis, from whatever cause it may proceed, there is no remedy so decidedly useful as cupping over the loins. Even when there is co-existing disease of the bladder or of some other part of the urinary apparatus, the relief is often almost instantaneous after some ounces of blood have been withdrawn by means of the scarificator [illegible] application of hot poultices afterwards, and the use of the warm [illegible] generally be recommended at the same time.

With respect to the use of acids, as means to obviate [illegible]

of the urine, and to counteract the tendency to the precipitation of the phosphatic salts, M. *Rayer* informs us that his experience is by no means very favourable to the practice. He has repeatedly observed that they entirely failed in producing the desired effect, and, when continued too long, or administered in large doses, they often seemed to injure the state of the stomach and the general health of the patient.

"I have seen," says he, "in workmen affected with chronic nephritis, the urine become acid and transparent after a fortnight's repose, and enjoyment of a good diet, in conjunction with one or more applications of the cupping glasses to the loins, and again become muddy and alkaline when the food was less nourishing, or the patients had taken any extra fatigue. I have carefully compared the effects of a vegetable and of an animal diet in such cases, and am satisfied that the latter is to be preferred. Not only does the state of the urinary secretion become more normal under the use of nutritious food, but the general strength and health of the patient very decidedly improve."

When there is much distress from the frequent calls to pass water, the use of opium, of anodyne enemata, and of emollient hip baths, will often give relief for a time. The acidulated decoction of the Pareira brava, the extract of the Uva ursi combined with the extract of hop or of henbane, the infusion of carrot-seeds, or of the leaves of the Diosma crenata, have been given with benefit in some cases; but the use of these remedies should be suspended whenever any aggravation of the inflammatory symptoms takes place.

The establishment of a purulent drain from the renal region, and the exhibition of the milder preparations of steel, have seemed to produce good effects occasionally.

M. *Rayer* has, as we have said, described at great length the various complications, which have been observed to attend occasionally the existence of nephritis. One of the most formidable of them is the development of cerebral disease, indicated by the sudden supervention of stupor and coma, which unfortunately are generally the precursors of a fatal termination. In this form of nephritis, the vomiting is more than usually severe and obstinate; so much so as often to excite the suspicion in the mind of the medical attendant of the existence of gastritis or peritonitis. The pain, however, situated in the loins, and the diminution, or even the total suppression, of the urine, point out that the kidneys are seriously affected. Whenever there is a complete suppression of the urine—the *ischuria renalis* of authors—the tendency to cerebral disease is much to be feared.

Several cases are quoted by our author of the absence of one of the kidneys, and where the other became the seat of inflammation, with or without the presence of calculi at the same time. We cannot be surprised that under such circumstances the renal disease proves inevitably fatal. He has also collected several instances of what has been called *fusion of the kidneys*, in which the double organ became the seat of inflammation. *Vesalius* long ago remarked that lean persons, in whom the abdomen is prominent and the lumbar region depressed, are often found to have but
d transversely across the vertebral column; and M. *Rayer*
been able, during the life of the patients, to confirm the
in more than one case. He adds that this peculi-

arity of the kidneys ought to be kept in mind by the physician, as the swelling caused by the irregularity of their position has been mistaken for a morbid tumor in the abdomen.*

Gouty Nephritis.

The connexion of renal inflammation with a gouty diathesis of the system has been pointed out by many practical writers from a very early period of medical literature. The well-known tendency, that exists to the deposition of sand and minute calculi not only in the pelves and calices, but sometimes even in the very substance and on the surface of the kidneys in gouty patients, is in itself sufficient to explain the frequent development of nephritis, usually of a chronic character, under such circumstances. As long as the calculi do not impede the free escape of the urine from the kidneys, the symptoms of the disease are usually indistinct and may not sufficiently attract the notice of the medical attendant; the patient complains rather of a dull heavy weight than of actual pain in the loins, extending sometimes down along the corresponding limb, and to the testicle, and attended with a sense of numbness in the same direction; the urine is almost always more decidedly acid than in health, even when its colour is not unusually deep; and the digestive functions are generally more or less disordered. The most important diagnostic symptom is unquestionably the state of the urinary secretion; and therefore, unless this be attentively examined and tested, the physician will necessarily remain in uncertainty as to the nature and cause of the malady. When first voided the urine sometimes exhibits minute grains of crystallized uric acid held in suspension in the fluid; if left for a few hours in a glass tube, we may generally detect a certain number of these crystals adhering to its inner surface. Even when the gouty diathesis is not very *prononcé*, the sediment, if examined with the microscope, often appears entirely composed of such crystals, which may, or may not, be blended with blood, or mucus or pus. This state of the urine is so inherent, so to speak, in gouty patients who suffer from renal pains, that I have known it to continue, says our author, after more than a year or two's use of alkaline baths and drinks.

If a calculus becomes impacted in the opening of the ureter, the symptoms assume a more active character, the pains in the loins become much more severe, and the urine is then generally more or less charged with albumen or globules of blood.

In simple nephritis, the urine is either very slightly acid, or it is neutral, or even alkaline: and its sediment is usually composed of the urates or of phosphate of lime in an amorphous condition: in gouty nephritis, on the other hand, the urine is invariably more acid than in health, and the sediment is generally more or less decidedly crystallized. The symptoms in the latter case not unfrequently subside and disappear after the expulsion of a quantity of gravel or of a small calculus. The detraction of blood by leeches or cupping over the loins, or from the arm if there is much

* In the Foreign Periscope of the present number will be found a series of extracts from M. *Rayer's* work, on the anomalies, &c. in the structure of the kidneys.—*Rev.*

feverish irritation of the system, will however generally be necessary; and if the pain should continue after the gravelly matter has passed, it may be prudent to repeat the loss of blood; employing at the same time warm baths, poultices to the loins, and diaphoretic demulcent drinks.

When the renal region remains tender on pressure, after the feverish symptoms have entirely subsided, and when the urine is found at the same time to contain either purulent matter or a large quantity of mucus with or without an admixture of blood, we have reason to suspect the existence of one or more calculi in the pelvis or calices of the affected kidney. In such circumstances, the quantity of the purulent or mucous secretion may usually be much diminished by the use of balsamic and terebinthinate medicines. Alkalis and alkaline earths should be administered as long as there is an excess of uric acid in the urine: their action seems to consist in combining with the acid of the urine, and thus forming salts which are much more soluble in the fluid than the acid itself. M. *Rayer* seems to have but little confidence in the decoction of the *pareira brava*, as an agent to restore a healthy state of the secretion. It has been, he says, from neglecting to test the urine and its deposits, that medical men have been so apt to attribute remedial properties to this and other substances for the relief of urinary complaints occurring in a gouty constitution.

Sir *B. Brodie* has drawn the attention of medical men to a set of cases, the symptoms of which very closely resemble those of nephritic colic, although differing from the latter in several respects. The disease, says this distinguished surgeon, usually attacks persons living a luxurious life, and prone therefore to the development of the gouty diathesis. The patient complains at first of a pain in the region of the kidneys, which afterwards extends towards the groin in the direction of the spermatic cord; at a later period, without any diminution of these symptoms, he finds that he has frequent calls to pass urine, and the effort to do this is often attended with sharp pains. The urine is usually scanty, of a deep colour, and more or less strongly acid, as indicated by its action on litmus paper. The symptoms will last for several days or even weeks, if no appropriate remedies are employed; but often they may be dissipated within a few hours by cupping over the loins, and by the use of frequently-repeated doses of colchicum. To prevent the return of such attacks, the most important precaution is to abstain from all wine and malt liquors,* and to use soda or Seltzer water, alone, or with the addition of a tea-spoonful of good brandy.

Rheumatic Nephritis.

This variety of the disease has hitherto scarcely been noticed by any writer. Even in those cases where patients have died from organic affections of the heart and other internal viscera consequent upon rheumatism, no mention has almost ever been made of the state of the kidneys.

M. *Rayer* is however quite satisfied that these organs are liable to serious

* If the patient has not sufficient self-command to abstain from these beverages altogether, a glass or two of sound old sherry in water, or a tumblerful of the bitter East India ale—now so much in vogue—may be allowed. This ale, by-the-bye, is an admirable restorative during the convalescence from fevers, influenzas and such debilitating diseases.—*Rev.*

alterations during the progress of rheumatic affections. He gives the following description of his own observations:—

"If the alteration was of recent date, the cortical substance of the kidneys was infiltrated in one or in several points with coagulable lymph; these solid depositions caused in almost every case a projection on the surface of the organ, where they looked as pale yellowish spots, often encircled with a ring of red. They varied much in size from that of a walnut to that of a hemp-seed; and some of them were usually found to penetrate for a considerable depth into the cortical substance. The lining membrane of the pelvis of the affected kidney occasionally exhibits beautiful arborisations of injected vessels; the size and weight of this viscus may also be greater than in health; and even minute depositions of purulent matter are sometimes observed.

When rheumatic nephritis has been of long standing, the kidney exhibits other appearances: the projections on its surface disappear, and are replaced with depressions, which are usually of a considerable size and of a yellow colour at the bottom. The investing membranes of the viscus adhere very firmly at these points, and can scarcely be detached from the cortical substance which they cover. Occasionally we meet with serous cysts in the cortical, and minute cartilaginous bodies in the tubular substance."

It is unnecessary to specify the symptoms of rheumatic nephritis, as there is nothing peculiar in this variety of the disease. It is only requisite that the medical man should be aware that there is a tendency to renal as well as to cardiac and other internal lesions in those who have suffered severely, or for a length of time, from arthritis. Occasionally the urine will be found to contain albumen; if pain in the back and testicles is present at the same time, the diagnosis is obvious that something is amiss with the kidneys.

The urine is usually very scanty and high-coloured in acute rheumatism; it contains a quantity of the urates in an amorphous state, and sometimes also a few crystals of uric acid—but never so abundantly as in cases of genuine gouty nephritis. M. *Rayer* lays much stress on this difference between the characters of the urinary deposit as a discriminating character between these two forms of the disease: the frequency of dyspeptic distress in the one form and of cardiac distress in the other should also be taken into account. This circumstance—the greater abundance of crystalized deposits in gouty than in rheumatic diseases—accounts not only for the frequency of gravel and nephritic colic in the one and the rarity of them in the other case, but also for the difference in the lesions of the kidneys discoverable on dissection in the two cases. In rheumatic as in gouty patients, attacks of complete ischuria are of occasional occurrence, and require prompt and vigorous treatment by bleeding, cupping, the use of the warm bath, &c.

Before quitting the subject of gouty and rheumatic nephritis, we must caution our readers against attempting to discriminate too nicely between these two forms of renal inflammation. It is often extremely difficult, nay impossible, to draw the line of distinction between some of the multiform varieties of gouty and rheumatic ailments; and the reason of this is no doubt that the two morbid states of the system are often associated and blended together in the same individual. Gout is unquestionably connected with the generation of an excess of acid in the fluids in consequence of imperfect digestion and assimilation of the food; and genuine rheumatism,

we have strong reason to believe, seems to be connected with the existence of an excess in the fibrinous constituent of the blood. Now the former disease is very often grafted upon the latter, when the constitution of the patient, perhaps originally robust and plethoric, has become enfeebled, and the energies of the stomach and bowels impaired. In addition to his rheumatic pains, he begins to lose his appetite, he is troubled with flatulence and acidity after his meals, the urine is observed to deposit a larger quantity of sediment, and is found to be more strongly acid than in health. Such is the manner in which gouty ailments are slowly developed in a rheumatic habit of body; and, when this complication is once fairly established, it is almost impossible to decide what symptoms during life, and what lesions after death, are attributable to the one, and what to the other disease. Let it be remembered too that neuralgic suffering is often superadded to the aches and distress arising from gouty and rheumatic causes; and thus the diagnosis is rendered more perplexing than ever. It is in such cases that the skill of the scientific physician is conspicuous. By nicely analyzing the different elements, so to speak, of the disease, he knows how to apply the appropriate remedies, either by combining several together so as to neutralise the various morbific causes at the same time, or by successively attacking and subduing them, one after the other.

Alkalis and colchicum are his chief agents for the relief of the gouty symptoms; local bleeding, mercury and guaiacum for that of the rheumatic, and anodynes and epispastics for that of the neuralgic distress. Strict attention to diet, and the occasional use of warm baths, will greatly enhance the value of these remedies in all cases; more especially in those where the gouty symptoms are the predominant ones. We have been led into these digressive remarks by observing that one or two of the cases related by M. *Rayer* as illustrations of gouty nephritis seem to us more strictly to belong to the rheumatic series: take for example the following one.

A woman, 29 years of age, had been long subject to palpitations of the heart; its impulse was very strong, and the beats were very irregular, although no abnormal sound could be perceived. There was pulmonary emphysema on both sides; the patient was frequently distressed with dyspnœa, and she was also dropsical. On several occasions she had suffered from attacks of gout in the hands, which were enlarged, stiff, and deformed. She made no complaint of any urinary annoyance. By bleeding from the arm once, and the use of digitalis, the dropsy was dissipated, and the patient was in other respects much relieved. While in La Charité hospital, she had a very violent attack of dyspnœa; the face was anxious and of a blueish hue; the pulsations of the heart were rapid and extremely irregular, but not accompanied with any morbid sound; the right side of the chest was unusually resonant on percussion, and over its lower half a loud mucous rale was heard. The whole of the left side was dull, when struck with the fingers, and no respiratory murmur was perceptible: probably from the effusion of water. There was also œdema of the feet, and a certain degree of ascites. The hands, deformed by the gout, were very painful. These symptoms resisted every remedy that was tried, and the patient quickly sank.

On dissection, the pericardium was found to contain four or five ounces

of fluid, but did not exhibit any traces of false membranes; the heart, especially its left ventricle, was greatly hypertrophied; the valves were but little affected. The lower lobe of the left lung was considerably compressed by fluid in this side of the chest; the right lung was emphysematous. Both kidneys were seriously altered by chronic inflammation. Instead of being smooth and regular on their surface, they were much deformed, rounded, and exhibited so many asperities as to make them resemble large mural calculi. When divided with the scalpel, the renal substance was found hard and contracted, as we observe in some cases of chronic nephritis, and was sprinkled over with particles of uric acid.

(Does not this case present the characters of rheumatic rather than of gouty disease?—*Rev.*)

Pyelitis, or Inflammation of the Pelvis and Calices of the Kidney.

By far the most common cause of this disease—which is much more frequently met with in the chronic than in the acute form—is the presence of calculi or gravel in the excretory apparatus of the organ. We have no space at present, and even if we had we should deem it a task quite unnecessary, to trace the course of this disease during its various periods of development. It is not by over-minute descriptions, so much as by a few practical hints strongly urged and illustrated, that the physician will be impressed with the importance of watching the progress of urinary complaints with more attention than he has hitherto been in the habit of paying to them. The careful inspection and examination of the urine will often enable him to detect the existence of latent disease, when every other means of diagnosis are utterly inefficient.

After dwelling at considerable length on the physical appearances of the urine in the early stages of pyelitis—the most conspicuous of which are the admixture of blood, mucous or muco-purulent matter, and the deposition of certain of the saline ingredients—M. *Rayer* makes the following remarks on its condition in the later periods of the disease:—

"The urine is usually bloody or purulent every time that it is voided, unless the disease is limited to one only of the kidneys, and the secretion from the diseased one be partially or entirely interrupted. We observe, however, great variations both in the frequency of the calls to pass the urine, and in its physical and chemical characters. When purulent urine coming from the pelvis of a kidney in the state of inflammation is retained only partially in its cavity, it becomes mixed, in variable proportions, with the urine from the other kidney, which may be at the time perfectly healthy.

The urine therefore may, in the course of the same day, exhibit very different appearances at different times; so that the medical man, if he trusted altogether to the state of the secretion as observed at one or two periods of the twenty-four hours, might be greatly misled in his judgment of the case. I have frequently seen, in cases of calculous pyelitis, the urine voided at one hour of the day highly charged with pus or blood, and at another hour perfectly clear and healthy—a state of things which can be explained only by supposing that the secretion came alternately from the diseased and from the sound kidney.

In some cases the suspension for a time of the unhealthy urine is always accompanied with an aggravation of the renal distress and with a febrile irritation of the system—in consequence, probably, of the ureter of the affected kidney becoming from some cause obstructed, and the urine therefore accumulating in its pelvis. The symptoms usually subside, when the voided urine again exhibits a purulent admixture.

It is necessary to be aware of the circumstance now mentioned, in order to avoid an error of diagnosis into which we should be apt to fall if we trusted to a single examination of the urine in twenty-four hours."

Let it also be remembered that the urine, when at all purulent, will be found to be albuminous on the application of heat, or by the addition of nitric acid; the amount, however, of the coagulum so produced is by no means proportionate to the quantity of purulent matter in the fluid.

The diagnosis of pyelitis is sometimes far from being easy. It may be mistaken for lumbago, for some kinds of nephritis, for simple nephralgia, for caries of the lumbar vertebræ, for psoitis, for obscure aneurism of the aorta, for some diseases of the ovaria, for disease of the colon, &c.—more especially as the urinary organs may be sympathetically affected at the same time.

It has been alleged by some writers that pyelitis may be distinguished from cystitis by the mere examination of the urine, when the other symptoms are obscure and ill-defined; that in the former disease the urine exhibits a genuinely purulent deposit, while in the latter it is usually only glairous and viscid. This remark is partially, but by no means universally, correct; for the purulent secretion of the kidneys may acquire a viscid character by a certain degree of alkalinity of the urine; and, on the other hand, that from the bladder, has not always this appearance.

When chronic pyelitis has existed for a length of time, and the excretion of the urine along the ureter is considerably obstructed either by the presence of a calculus in it or in the pelvis of the kidney, or from any other cause, a swelling may sometimes be distinctly felt in the lumbar region; and cases have been known where the process of suppuration and ulceration has been set up by Nature, until at length an abscess has been formed there, and, on the opening of this, one or more calculi have escaped from the wound in the loins. Acting upon the results of such cases, several surgeons have recommended that a deep incision should be made, when the swelling is distinct, until the distended pelvis of the kidney be opened, and thus an exit be provided for the discharge of the pent-up purulent matter and also of any foreign substance.

M. *Rayer* quotes several instances in which such an operation has been quite successful, and in which one or more calculi have been thus extracted; and it would seem that in one case, which occurred in his own practice, M. *Velpeau* performed it, with a satisfactory result, on a patient whose death appeared to be imminent.

As a matter of course, the greatest judgment must be exercised beforehand, to arrive at an accurate diagnosis; as the mere circumstance of the presence of a swelling over one of the kidneys, accompanied with symptoms of urinary distress is far from being a sufficient warrant for undertaking any operation; but, on the other hand, the surgeon is not to be deterred from resorting to it, when the ensemble of the symptoms points out that Nature is making an effort to relieve herself by establishing an abscess in the loins.

It is more than probable that in most of the successful cases, which have been recorded, the calculi had already escaped from the pelvis of the kidney through an ulcerated opening and were lodged in the cellular tissue exterior to it. In a curious case, related by *Roonhuysen*, a calculus was extracted from an extra-renal abscess or from the right kidney itself, and the patient continued to enjoy good health for a couple of years.

At this period, an inflammatory swelling appeared in the same place, and, on opening it with the knife, a second calculus was extracted. The wound healed, and the patient had no further trouble.

Some surgeons may prefer the use of caustic to that of the knife in opening abscesses; and, judging from the successful application of this practice in ...tment of hepathic abscesses and cysts, it perhaps deserves the preference. ...niversal rule can be established; and much will depend on the pecu... ...ach case.

Renal Hæmorrhage.

... with the urine is observed occasionally during the ...s, not only of the kidneys themselves, but also of

the bladder and of the urethra. Several of the forms of nephritis are accompanied with sanguinolent urine; it is rather a common symptom in the early stage of albuminous nephritis, more especially where this disease has followed upon an attack of scarlatina. Even in its chronic stage, it is not uncommon to find, with the aid of the microscope, the presence of blood globules in the sediment of the urine; and, in the paroxysms or exacerbations of the malady, the proportion of these globules is often so great as to give the urine, which previously had been quite pale, a red or brownish hue.

In acute rheumatic and gouty nephritis also the urine is occasionally sanguinolent.

The formation of petechiæ and of depositions of blood in the substance and in the pelves of the kidneys, with genuine renal hæmaturia, are the usual phenomena of nephritis induced by morbid poisons.

Renal hæmorrhage is a not unfrequent symptom of *pyelitis*, especially of the calculous form of the disease; and also of cancerous and other morbid degenerations of the kidneys.

The secretion of blood from the urinary organs is observed in the course of certain constitutional diseases, and appears to depend upon an abnormal condition of the blood itself and probably of the blood-vessels also, without any distinct local malady of these organs. Thus in purpura and in scurvy the urine is often more or less decidedly sanguinolent. M. *Rayer* alludes to an interesting case which occurred in his own practice: it was that of a young man in whom there was hæmorrhage from four different mucous surfaces at the same time: viz. from the air-tubes, from the nostrils, from the intestines, and also from the urinary passages. *Latour* relates a similar case, which occurred in a young girl, who for four years frequently voided blood in all these ways, and ultimately recovered her health.

In hæmorrhagic diseases, the hæmaturia is often observed to cease for several days at a time, and again to make its appearance soon afterwards without any appreciable cause.

There is a form of renal hæmorrhage, rare indeed in any part of Europe,* but which seems to be of frequent occurrence in certain tropical countries; more especially in the Isles of France and Bourbon, and in Brazil.

M. *Chapotin*, in his topography of the Isle of France, thus expresses himself:

"In this island, the children of both sexes, from their most tender age, are subject to hæmaturia. In some, the discharge is continued and slight: in others it returns at intervals, and in varying quantities. It is usually unattended with pain or any symptom of constitutional disturbance; and the health of the infant remains good. It would be dangerous to check the discharge: and all that is necessary is to use means to strengthen the constitution, such as the use of cold baths and a nourishing diet.

This form of hæmaturia usually ceases about the period of puberty: but often it continues to a later period of life. Frequently it is replaced by attacks of nephritic colic, which seem to depend sometimes on the congestion of the blood-vessels, at other times on an excessive secretion of mucus, or on the presence of renal calculi.

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* Although *endemic* hæmaturia has not been observed in man in Europe, it would seem that it occasionally occurs in some of the lower animals during certain seasons. It is necessary, however, to distinguish this disease from that which may depend upon the use of certain articles of food. Thus we are told by *Frank* that eating the *cystus laurifolius* is apt to induce hæmaturia in sheep, and that several species of *ranunculi* produce the same effects in cattle. M. *Drouard* says that in cows bloody urine is a not unfrequent occurrence in certain seasons during Spring.—(De l'hematurie dans l'espece bovine. Rec. de Med. Veterin. 1837.)

In corpulent persons I have often noticed a tendency to great congestion of the blood-vessels of the kidneys, indicated either by hæmaturia or by a suppression of the urine: the disease is sometimes owing to the cessation of a hæmorrhoidal discharge."

M. *Salesse*, himself a native of the Isle of France, and now a resident practitioner there, gave the following account of this endemic hæmaturia in 1834:

"Three-fourths of the children in this island are affected with it. Masturbation, the use of spiced meats, &c. are its exciting causes; the bad quality of the water also has been blamed. . . . .

When the blood comes from the kidneys, the patient is usually subject to attacks of nephritic colic: this in some cases is owing to the presence of renal calculi. The urine is mixed with blood; its colour is the same from the first jet to the last drops; and in some cases coagula come away with it. The only pain which is experienced is felt at the extremity of the glans. After any excess, whether in the pleasures of venery or of the table, the colour of the urine is usually more deep; the same effect is often induced by fatigue from long walking, dancing, and so forth. . . . . When the blood comes from the bladder, the patient experiences pain in this region and about the anus; the perineum is the seat of an uneasy tension and sense of weight: and any excess will sometimes have the effect of rendering the urine less sanguinolent. The calls to pass urine are frequent; and coagula are not unfrequently mixed with it: the semen also is sometimes sanguinolent.

Persons affected with this hæmaturia are in general of a pale complexion and feeble constitution."

Dr. *Salesse* quotes some very curious cases, most of which are reproduced in M. *Rayer's* work. The first is that of a gentleman, who had been subject to continual hæmaturia since he was seven years of age. In his 21st year, he made a voyage to France, in the hope that he might get rid of this complaint, although he did not experience any distress from it, except occasionally a sense of weight and tension in the perineum. While in Paris, the hæmaturia increased, and he consulted M. *Andral*, who recommended him to take a decoction of rhatany root. He had several attacks of ague, during which the urine was usually much freer from blood than it was at other times: the sulphate of quinine was freely administered. He always observed that the sanguineous admixture was less after the use of the cold bath. He never suffered from any pain or uneasiness in the renal region.

In another case, the patient, who had been affected with hæmaturia from his infancy, made a voyage from the Isle of France to France, to prosecute his studies. Soon after his arrival in Paris, his complaint disappeared, and did not recur during the whole time—a period of from six to seven years—that he resided there. He then went to the Mauritius; and a few months afterwards the hæmaturia returned, and still continues.

In some cases of this endemic hæmaturia, the urine is found to contain uric sand or gravel at the same time. M. *Rayer* observes that the reports of the preceding cases are not sufficiently minute, as to the nature of the urinary sediment, to enable us to determine whether there was not an admixture of the urates in them also. He very properly suggests that a chemical and microscopic examination of the urine should never be neglected.

A curious circumstance connected with this endemic disease is that the sanguineous state of the urine is occasionally followed by a milky, or as it has been called a chylous, state of the secretion.*

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* Several illustrative cases are given at considerable length by M. *Rayer* from the works of M. *Chapotin* and others; but we cannot do more than refer to them at present.

This peculiar anomaly of the urinary secretion is not unfrequently met with in the Brazils, as well as in the Isles of France and Bourbon. A very interesting case, which occurred in a gentleman, a native of the former country, is related at greath length in the Journal La Presse by M. *Caffe*.* Some years ago an elaborate discussion on the nature of this disease, which is known under the name of milky diabetes, took place in the Medical Society of Rio Janeiro. A committee was appointed for the purpose of investigating it with attention. It appears from their report that it is often met with in that city, more especially in hospital practice. It is more common in women than in men. Its duration is very variable; lasting sometimes for months and years, and then ceasing without appreciable cause. From the irregularity of its character, and the inconstancy of the morbid appearances found on dissection, Dr. *Simoni* (one of the physicians of the Misericorde Hospital) regards it as a nervous affection of the kidneys. He recommends the use of steel, valerian, &c. in the treatment of this disorder; but acknowledges that in some cases no remedy seems to be of any avail, and that the secretion will often assume a healthy appearance when nothing is done. The health of the patients is often surprisingly little affected during its continuance. The term *diabetes* is, Dr. *Simoni* remarks, improperly applied to this disease; as, in the majority of cases, there is no decided increase in the quantity of the urinary secretion. It seems to be generally admitted that a strengthening diet, tonic remedies, and the use of the cold bath, are the most useful means that can be employed.

M. *Rayer* remarks, that he has several times had occasion to observe that hæmaturia, occuring in persons born and residing in Europe, has been followed by an albuminous state of the urine; but that he has never met with an instance of the chylous or albumino-fatty transformation except in persons born in tropical countries. The medical man must be on his guard not to mistake the whitish urine produced by the admixture of purulent matter with it, for this condition of the secrtion. Purulent urine, if examined with the microscope, will be found to exhibit globules of pus diffused through it; and, when allowed to rest, a puriform sediment will be observed, while the urine above becomes less opaque and troubled. Chylous urine, on the other hand, is observed to contain either globules like those of the blood, or no globules ate all (the albumino-fatty urine); and, after some hours' repose, the opaque matter rises to the surface and the urine below becomes somewhat less opaque.

Before quitting this subject, we may mention that hæmaturia seems to be of frequent occurrence in some other tropical countries, besides the Isle of France and the Brazils. We read that many of the soldiers of the French army in Egypt suffered from it. M. *Renoult* says that is was more common in the cavalry than in the infantry soldiers, and that even the horses were not exempted from it. He attributes it to the great diminution of the renal secretion, induced by the excessive perspirations, and to the irritation caused by the scanty acrid urine on the inner surface of the *bladder*. Severe exercise on horseback is occasionally apt to produce hæmaturia in some persons, even in temperate climates: M. *Aran* published a memoir on this subject in 1811.

We must here draw our remarks to a close. The deservedly great attention that has of late years been paid to the diseases of the urinary organs has rendered it quite necessary that every well-informed medical man should be acquainted with the recent standard publications on the subject. This has been our motive for giving a second review of M. *Rayer's* large and elaborate work—a work which reflects the highest credit on the author, and impresses on the reader a most favourable opinion of the present state of French medical literature.

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* The report is inserted in the Number of the Medico-Chirurgical Review for April, 1839, and will repay the trouble of a re-perusal.

DERANGEMENTS, PRIMARY AND REFLEX, OF THE ORGANS OF DIGESTION. By *Robert Dick*, M. D. 8vo. Edinb. 1840.

WE have perused this work with pleasure and instruction. It is decidedly the best compilation in the English language on the extensive class of disorders and diseases comprehended under the term dyspepsia, united with a very large proportion of original matter, both in the form of able comments on other writers, and practical information derived from the author's own experience. But the mass of compiled and original matters is so well mixed and amalgamated as to defy the powers of the most laborious German analyst to separate the one from the other. The *former* we cannot introduce without the latter, and *both* we are unable to review. The work itself, indeed, is very comprehensive review, critical, analytical, synthetical, and auto-graphical.

We shall introduce two or three cases, or passages, from the author's own note-book, that may not be without interest.

CASE 1. *Nitrate of Silver.*—A young gentleman, who had stomach ailments almost from infancy. The most distressing symptom, however, was eructation of an acid and burning fluid and gas from the stomach, which often commenced even during meals, and continued for hours afterwards. Yet his bowels were regular, urine natural, and the functions of the skin normal, with sound sleep—and no apparent disorder or disease of any other organ in the body.

"The case of this young gentleman appearing to me to betray an union of morbid secretions and morbid sensibility, I commenced the treatment with small doses of blue pill and ipecacuanha, from which no immediate benefit appeared to result. I then put him upon a month's course of nitrate of silver, with a view to allay the morbid sensibility of the mucous membrane.* The effect in this, as in almost every other case in which I have tried it, was surprizing and gratifying in the extreme. This patient, in common with many others who had taken this medicine, warmly expressed the great relief from irritation, flatulence, cutaneous chillness, discomfort, which it promptly procured them. This gentleman assured me that he had not felt himself so much in possession of the *sensation* of health, so far back as his memory could carry him, as he did since he began the use of the medicine in question. I have once or twice laid it aside from fears of its discolorizing property; but, after a while, returned to it, and always with augmented benefit. And this young man who, when he came to me, did not dare to go into company, partly from the depression of his spirits, partly from his well-founded terror of being led into dietetic excess, partly from the disastrous effects which the moral excitement of society ever had on his enfeebled and irritable nervous system; who, when I first saw him, was plunged into the deepest despondency and despair, is now cheerful and confident,—mingless freely in society, and looks and feels like one in excellent health." 202.

This is a very striking case, and we think we may pretty confidently say that the oxyde of silver will be found equally beneficial in gastric derangements, with little or no risk of discoloration of the skin.

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* See Dr. J. Johnson's work on Morbid Sensibility, pages 43, 84, 85.

2. *The Dyspeptic's Melancholy Tale.*—"There is a class of patients who enter the apartments of physicians, with a mixed air of timorousness, reserve, peevishness and impatience. Their emaciation, if they are emaciated, is not of a ghastly character; something in their gait or countenance announces in general to the eye of the physician, that the malady of his visitor is not of an exceedingly urgent or of a violent nature. The fretfulness and restlessness engendered by the disease, hinders the patient from devoting much time to the civil ceremonial of introduction or explanation; but almost without a question on the physician's part, hurries him abruptly in *medias res*. It is easy to perceive, from the fluency and fullness with which the invalid pursues the history of his feelings and symptoms, that that history is rehearsed neither for the first nor fiftieth time. Sufferings usually stated as unprecedented; plans of diet suggested to him, and followed with various success; changes made from time to time in medicines and physicians; benefit derived from this doctor but not from that, from this watering place, but not from the other; total inability to enjoy society or life; gradual departure of the powers of intellectual application; growing hebetude of thought; a resolution of embarking in a totally new mode of life; of exchanging town for country, active and civic, for rural life; misery, and, by no means infrequently, a propensity to suicide,—these, or some of these, are the staple heads of a dyspeptic's inaugural discourse to any physician whom he may visit for the first time. The whole is delivered in a tone slightly querulous, the consequence of a physical and mental irritation of a sort entirely peculiar." 43.

A large class of these dyspeptics seem to experience as much pleasure in rehearsing their catalogue of miseries, as an infant does in sucking its thumb!

3. *Dyspeptic Phthisis.*—Our author appears to go far beyond Dr. Philip in respect to the influence of *disorders* of the stomach in inducing *diseases* of the lungs. We shall introduce one of the proofs adduced in support of the doctrine.

"—— ——, 22 years of age, and born of healthy parents; had suffered for several years from unpleasant sensations in the stomach; heat, pain, heaviness after meals. His tongue was clean; his bowels variable; easily deranged; his belly tense; his urine natural; his pulse 80; small; he was irritable; nervous, easily exhausted; easily chilled. His chest was perfectly normal. This fact I repeatedly ascertained, and that within ten days of his death. He had horrid dreams.

By treating him with sedatives and antispasmodics, and the mildest laxatives the dyspeptic symptoms were greatly relieved; but he did not gather flesh, although his strength improved, and any departure from a very strict regimen immediately re-produced great gastric irritability and suffering. He constantly complained of chillness. On this account, I cautioned him against exposure to cold; aware of the truth of Andral's remark, that when the system has been long kept in a state of debility and febrility by a gastric irritation, any pulmonary affection is apt to be rapid and destructive.

In May, —— ——, was seized with influenza. A cavernous rhonchus was heard on the fourth day, and the fifth terminated his life.

Inspection.—The stomach, which had tortured ——'s existence for many years, was perfectly sound!! so was the liver, so were the intestines. The left lung was entirely disorganized; almost one purulent sac. The right lung was greatly diseased. And all this in the course of five days, not from a regular pneumonia, or ungovernable pleurisy, but from ordinary influenza. It was clear that, in this case, the long constitutional irritation produced by the merely functional gastric

affection, had by the maintenance of a constant febrility, annihilated the conservative vigour of the system. No doubt, had the brain been the organ of attack, structural change would have taken place in it as rapidly as it did in the lungs." 276.

We confess that this line of argument savours a good deal of the *post hoc ergo propter hoc*. Much confidence as we have in auscultation, we should be very sorry to pronounce lungs to be positively sound because we could detect no disease there. Have not lungs often broken down rapidly under inflammation, without any previous dyspepsia? Dr. D. says the *right* lung was "greatly diseased." If he had stated the nature of the diseased condition, we should have been better able to form an opinion as to that lung being perfectly sound five days before the death of the patient. Be this as it may, we quite approve the following direction.

"Our rule in all doubtful cases is, to use carefully the stethoscope; to consider carefully the history of the origin of the disease; to determine the absence or presence of pain or tumefaction in the abdomen; to watch if attention to the digestive organs, and the subjugation of irritation there, dissipate the pulmonary phenomena. We idle our time, if we treat a cough, sympathetic of gastric irritation, by measures directed exclusively to the chest. But, on the other hand, we may err fatally in mistaking for a merely secondary affection, an incipient and true phthisis, which sometimes signalises its commencement, by simultaneous gastric symptoms, whose more marked, but comparatively unimportant presence, may mask the graver malady." 281.

If Dr. Dick saw a tithe of those who, in the second or even third stage of phthisis, present themselves to us, labouring as they say, and as they have been told under "STOMACH-COUGH," "but no affection of the lungs," he would be a little more guarded in his doctrines on this point. We will not say (though we might do so with a clear conscience) that this doctrine is the annual destruction of thousands in this country; but we may aver that it ruins the reputation of many young medical practitioners every year. Patients come to them with cough. Among the first questions is this. "Have you had any indigestion, or affection of your stomach, before the cough began?" "Oh, yes, Sir, I have indigestion for years before." With the "stomach cough" doctrine in his mind, the inexperienced practitioner naturally says to himself, here is a clear case. The indigestion was the cause,—the pulmonary disease is the effect. "Sublata causa, tollitur effectus, is philosophical, and that rule I will pursue. Meanwhile the patient dies of unequivocal phthisis, and as other medical men will probably have been consulted, the philosophical doctor —the *doctrinaire*—will be severely commented on, for telling the patient and friends, that it was merely a "stomach cough."

Now all we recommend is this:—If you find gastric and pulmonary disorder *co-existent*, do not be led away by the affirmations of the patient, that the *former* preceded the *latter*, and prescribe mutton chops thrice a day with sherry and the shower-bath—not forgetting sulphate of iron and Epsom salts—but treat both complaints. The practitioner may depend upon it that the pulmonary affection is the main one, whether original or secondary, and that, whether he consults his patient's health or his own reputation, he will do well to direct his principal attention to the

chest. Too many of the medical world is too apt to treat diseases according to the name which they affix to them in their own minds. If they determine that it is "INDIGESTION," then a certain routine diet and pharmacy are ordered which, in general, is the very reverse of that which is necessary in incipient pulmonary affection, where inflammatory action is present in nineteen cases out of twenty. The consequences need not be told! We do not accuse our author of these indiscriminations; but assuredly his writings will lead hundreds of inexperienced practitioners astray. We strongly recommend the following judicious advice to our younger brethren.

"As a general rule, it may be laid down, that so long as the secondary affections are *purely sympathetic*, *purely functional*, perseverance in the measures addressed to the digestive organs is alone requisite. This rule applies equally to the sympathetic affections of the heart, lungs, and brain. But it is incumbent on us to recollect, that it is almost inconceivable how insidiously sympathetic, erects itself into fixed and independent disease; which attention to the digestive organs may indeed palliate, but can then no longer eradicate." 302.

This is a good rule, but the one we have alluded to is better—namely, to treat both affections simultaneously. On this plan it is hardly possible to do harm.

We may conclude, with again expressing our opinion that Dr. Dick has, with great labour and no trifling discrimination, compiled, selected, compared, and, as it were, amalgamated, a vast store of "useful knowledge" on the subject of stomach complaints, through which a large current of original matter constantly flows.

THE SPAS OF ENGLAND, &c. By *A. B. Granville*, M. D. 3 vols. octavo. Colbourn, 1841.

DR. GRANVILLE is one of the first living locomotives that now exists. With great talent for observation, his tablets are ever ready to receive and record the transient impressions on a lively imagination. Nothing escapes his notice. From the tariff of a dull French "Poste," to the magnificent bill of fare at a splendid table-d'hôte in a Cursaal—from a cold and bitter draught of Pullna, drawn from a ditch in Bohemia, to a goblet of the boiling Sprudel, or the sparkling Kreuzbrun—from a musical diagram o the prattling echo on the Rhine, to a profound speculation on the central caloric of the globe we inhabit—from an architectural criticism on the façade of a terminus to a geological disquisition on a Druid's circle—all these, and every thing else which science discovers, art invents, or the press commemorates,

"Quicquid agunt homines,"

contribute to fill the portfolio of our lively and indefatigable author.

The "SPAS OF GERMANY" having gone off with such eclat, it was

natural to expect a pendent or sequel to them, collected from the "SPAS OF ENGLAND." But here, we suspect the worthy doctor calculated without his host—or perhaps the HOST HIMSELF overshot the mark. The old Scotch proverb that "far fowls have fair feathers," told much in favour of the foreign waters, whilst the homely adage that "familiarity breeds contempt," told equally against the "Spas of England." But independent of these proverbs, our comparative ignorance of the German mineral waters rendered a description of them agreeable, a little *embellishment* pardonable, and a desire to drink them almost irresistible. The consequences might have been foreseen. The gossip and travelling anecdotes of a foreign tour will go down much easier than descriptions and scenes at our home watering-places, with which we are all familiar. The only judicious plan was, in our humble opinion, to throw overboard all the gossip and anecdote, and thus compress the real and necessary information respecting our own medicinal springs, into one volume, instead of spinning it out into THREE. This might have been done with the greatest ease, had Dr. Granville possessed the "organ of concentrativeness" in greater development—or the "organ of self-esteem" in less. The author, or rather the publisher, ought to have *commenced* with "the Spas of England," as he *ended* with those of Germany—by reduction of size and price to *one-third* the original dimensions and amount.

The three volumes before us are extremely well calculated for the operation of a condensing engine in the hands of a practised analyzer, since the materials are so *squeezable* that they might be reduced to almost any narrowness of limit, not only without injury, but with the greatest advantage. Such an article would gain in strength in exact proportion as it diminished in size, while its utility would be inversely to its verbosity. We do not entirely blame our author for taking a course directly the reverse. When a writer is paid by the sheet, and a publisher is remunerated by the volume—when, in short, the author cannot *dictate*, without danger of remonstrance, to the man mid-wife who delivers his brain of its literary offspring, the case will ever be, as it has always been, that *trade* domineers over *literature*, and gold over reputation. This, however, is somewhat out of our way—a mere "sat verbum." We must now to our work.

We must pass over the several pages of "Popular Considerations on English Mineral Waters," with an admiration of the extremely shrewd recommendation at page 47—namely, that all patients who are thinking of visiting a Spa, whether at home or abroad, should put this home question to their doctor—have you personally visited the proposed Spa? This is a *popular* hint worthy of being recorded in letters of gold?

CHAP. I.—"CLEARING THE WAY WITH THE PUBLIC."

This consists of a dialogue (imaginary) between a SPA-DOCTOR and his friend, with which the public has no more concern, than with the "dialogues of the dead."

CHAP. II.—"RAIL-ROAD TRAVELLING."

Dr. G. comes to the conclusion that "such a mode of conveyance is not

more likely to do mischief to people's health than any other hitherto adopted." But he makes a qualifying declaration that—"Constituted as rail-rords are at present, * * * * it is not impossible that some easily affrighted dame, some highly nervous old gentleman, &c. may suffer from railway travelling, or from some of its concomitants." Few will hesitate to subscribe to this doctrine—and all will hope that Dr. Granville's improvements will be adopted throughout England.

CHAP. III. and a rather long one, is on the same subject—a division which is of no interest or concern to any one but the compositor, who calls a blank page "a piece of fat." It is fat to him, but it is monstrously lean to the reader! We were a little surprised at the following statement:—To a traveller who is in a hurry, and desires *to enjoy as many of the comforts of a rail-road as he can procure, the night train* is unquestionably to be preferred." p. 27, vol. 1. All we can say is—de gustibus non disputandum.

Passing over the moving scenes in Euston Square and the Birmingham station, the first of which is pronounced to be "dramatic in effect," and the second "no less theatrical," we will transport our readers at once to

HARROGATE.

CHAP. V.—Dr. G. very justly remarks, that "Harrogate has the very *air* of a watering-place." No one will doubt this, or ever forget the *air* of it, who takes a good large glassful of the Old Sulphur Well. If any one can imagine an old rusty gun-barrel (that had not been fired or scaled since the time of the Spanish Armada) to be well scoured out with sea water, in which a large number of rotten eggs are dissolved, and, last of all, a stream of sulphuretted and carburetted hydrogen gas directed through the "preparation," he will have a good idea of this "Yorkshire stingo" at Low Harrogate.

But the more stinking a medicine is, the greater will be its reputation; and Horrogate is now becoming one of the most renowned Spas in England. It is a place of many springs, and so many chops and changes have taken place in the names of the wells and of their proprietors, that it is no easy matter to ascertain them. It took us forty-eight hours, in the month of August last, with Dr. Granville's, Dr. Hunter's, Dr. Scudamore's, and other books in our hands, before we could unravel the intricacy that prevails here. Here we have, at Low Harrogate, two sulphur wells (the old one without a pump, and the Montpellier well with one) three salines, (the Montpellier Cheltenham, Walker's Strong Saline, and the Promenade Cheltenham Saline,) with two extensive bathing establishments. Between Low and High Horrogate, in a swampy common, we have the oldest well of all, a pure chalybeate—the TEWIT, with a mere rude stone shed to defend it from the rains and winds, and attended by a very ancient Naiad, who doles out the clear steel spring to a few votaries. Near it stands the ruins of a cottage, which give the place a triste air of solitude and desolation:

> "Deserted in its utmost need
> By those its former bounty fed."

A narrow road, on which two gigs could scarcely pass, leads from Low Harrogate to the original spring which first gave this watering-place "a local habitation and a name ! !"

Ascending about a quarter of a mile on the common, we come to the second spring, in age, called the "OLD, or SWEET SPA," situated nearly opposite the Granby Hotel, in High Harrogate. Some more attention has been paid to this pure chalybeate, as it is enclosed in a stone building, and open to all bibbers, who can bring a glass or cup with them. Both this and the TEWIT are pure chalybeates, one containing two grains, the other two and a half grains of iron in the gallon—or about a quarter of a grain in the pint.

Traversing the table land or common of High Harrogate, one mile and a half from the Old or Sweet Spa, on the Knaresborough road, we come o the STARBECK WELLS— one, a mild sulphur, and the other a mild saline chalybeate water, with a small suite of baths.

Thus then, we see that there are eight or nine drinking wells at Harrogate, all varying more or less from one another in their chemical composition and medicinal effects. Excepting the two pure chalybeates, all the waters are aperient. The sulphur wells being most so, though containing little of other aperient salts than the muriate of soda.

The "MONTPELLIER SALINE CHALYBEATE" contains 110 grains of salts in the pint, of which muriate of soda makes 81 grains—sulph. sodæ 2½—muriate of lime 22—muriate of magnesia 4 grains—oxyde of iron nearly half a grain.

The "ROYAL PROMENADE OR CHELTENHAM SALINE," as it is called, contains in the pint, as follows:—muriate of soda 24 grains—muriate of lime 18 grains—muriate of magnesia 10 grains—carb. soda 1½ grain—oxyde of iron half a grain.

The impropriety of giving the term "Cheltenham" to this water is evident—there being no sulphate of soda or magnesia in it. Its aperient qualities must therefore rest on the muriate of soda, and muriate of magnesia.

Walker's Pure, or "Strong Saline," as it is termed, contains about 90 grains of saline matters in the pint—into which enter 76 grains of muriate of soda—6 of carb. soda—5½ muriate of lime—2 of muriate of magnesia.

We need not specify the wells any farther. They are capable of application to a great variety of complaints, whether taken internally or used in baths, or both conjoined.

Among our forefathers the Harrogate waters worked wonders. Dr Dean informs us that "the common people drink them, and they expel *reef and fellon*. They soon help and cure by washing and bathing, itch, scab, morphew, tetters, ringworm, and the like."

It appears by the testimony of Dr. Neale of Leeds, that the Old Chalybeate, or "Sweet Spa," as it was called, were not behind the sulphur wells in his day.

"As to the virtues of this spring there is scarce any disease incident to mankind wherein its inward or outward use may not be of service. I have been an eye witness of its effects nearly forty years, and I have not neglected drinking

it myself any one season all that time; and though I am now in my 66th year, yet I am strong and vigorous, free from the complaints of old age. But because a general and just commendation of this spring will not be satisfactory, without condescending to enumerate the diseases wherein it's proper.—It's good therefore, to restore a lost appetite and digestion, to mitigate the scurvy, correct all acid humours in the lympha, blood, nervous and pancreatic juices. It cleanses the kidneys and ureters of slime, sand, gravel, and great stones, and is very assistant in curing ulcers in those parts. It removes the hyppo's melancholy, opens obstructions of the lungs, liver, spleen, mesentery, and glands. It purifies the blood, and renders the spirits in the body more cheerful and lively. Several short-winded, asthmatic, weak, and lame people, have had their lungs and limbs restored to their former strength and usefulness. It relieves inveterate headaches, especially if at the same time you use the cold bath. It is also very serviceable in the gout, by restoring the use of lame hands, knees, legs, and feet. It revives the memory, clears the brains from viscous humours, and helps the eyes by drying up rheums. It relieves sharpness of urine, strangury and disury, if there is no large stone or other stoppage in the urinary passages. It corrects acidity in any part of the body; as in the heartburn, belchings, sourness at the stomach, gripes, cholic, and borbarigmos. It opens the breast and lungs, cuts tough flegm, promotes expectoration, and has often been successful in the cure of blood-spitting, hectic fever, too great heat and dryness of the skin and body." 86.

But descending along the stream of time to our own days, we shall give an extract from one of the most recent writers.—Dr. Adam Hunter, of Leeds, who has enjoyed means of observations which could not fall to the lot of any casual visiter of this celebrated spa.

"Although well aware that nosological arrangement has latterly been very much disregarded, and even discouraged by some celebrated lecturers, I have long been convinced of its utility, not only in the study but practice of medicine. Allowing that in many instances the classification is imperfect, and founded upon hypothetical reasoning, the abstract question of its correctness seldom interferes, or will soon cease to have any influence over the mind of the practitioner; while the arrangement of observations under their respective heads, greatly facilitates inquiry, and gives accuracy to the deductions obtained. With this view, as intended for the medical reader I shall briefly glance at the nosological arrangement of Cullen, in relation to these waters. As alterative aperients, they will be found chiefly applicable in the chronic forms of most of the diseases included in the class pyrexiæ and order phlegmasiæ; in the sequelæ of most of the exanthemata; and in the hemorrhagiæ. In class second, neuroses, order second, adynamiæ, these waters possess great power. In almost every one of the third class cachexiæ, they are no less useful. Likewise in a considerable number included in the fourth class, locales.

The *Sulphur Water* speedily and safely carries off the effects of intemperance in those who, having spent the winter and spring in festivity, resort to Harrogate with their system loaded with impurities, from ths excesses of the table, and whose stomachs are debilitated by these and similar causes. Its use is acknowledged in those predisposed to apoplexy. In chlorosis or green sickness, it has been usual to drink the sulphur water for some time, and then take the chalybeate. In diseases of the skin, especially the order squamæ of Willan, who mentions his having seen some very obstinate cases of lepra, alphos, and psoriasis, completely cured by this water; in porrigo, herpes, and the impetigines; scrofula, scurvy, secondary syphilis, and ulcers, its use has been equally efficacious. In gout also, in both its principal divisions of regular and irregular, or atonic; in the first, the constitution is sound and vigorous, the fits are severe and regular, and there is generally plethora and inflammatory diathesis: in the second, the

constitution is debilitated and diseased; the fits irregular; the alimentary canal, head, breast, and urinary passages, affected with various complaints, alternating with the fits. In the former the water may be taken as an habitual laxative: in the latter, its use requires considerable caution, the warm or vapour bath in conjunction with it will frequently prove useful. In the numerous list of complaints now comprehended under the term dyspepsia, or indegestion; in many of which, however, the saline chalybeate water is preferable. In flatulent and bilious cholic, habitual costiveness; hypochondriac affections; jaundice; hemorrhoids or piles; worms; in chronic rheumatism, with the warm bath; and lastly in some cases of dropsy, by active purging. In stone and gravel, the weaker sulphur water at Starbeck has been much extolled.

Having already detailed the properties of the *Saline Chalybeate Water*, its general effects will be readily understood. In most of the diseases already mentioned, where the sulphur water is found to occasion relaxation and weakness, or where the strength is not recruited under its use, this will be found a proper substitute. In all female weaknesses, I am disposed to give it the preference. In chlorosis; atonic gout; hepatic and nervous affections; diabetes, and some cases of tic doloreux, it has likewise been of the greatest advantage.

The effects of the *Saline* or *Leamington Waters* have likewise been stated, it is unnecessary therefore that I should further advert to them.

The action of the *Pure Chalybeates* is more distinctly tonic than either of the former. In all cases, therefore, where the system is relaxed, these waters properly administered, produce the happiest effects. When the sulphur or saline waters have carried off the previous obstructions, a short course of one of the chalybeate springs will brace the solids, and give tone and vigour to the system." 133.

Having, for many years past, been in the habit of sending patients to Harrogate and other mineral waters, we have, to use the language of anatomists, a kind of *distal* experience of their medicinal effects; and we can very much corroborate what Dr. Hunter has stated respecting Harrogate. We are inclined to think, however, that this Spa owes a good deal of its celebrity to the air as well as the waters. We have seldom experienced more bracing or exhilarating effects in any locality than at High Harrogate. The air of the common there is remarkably clear, pure, and invigorating, and some of the hotels, as the "GRANBY" (a first rate) and "GASCOIGNES" (a second rate but most comfortable one), are well situated for those invalids who are able to walk or drive down to the wells in Low Harrogate in the mornings.

There are several LIONS in the environs of Harrogate, to which excursions are made—the BRIMHAM rocks, ten miles from the Spa, being that which most interested me. This is a huge collection of BOULDERS, of all shapes and sizes, scattered over the top of a hill, and along its sides, in inextricable confusion. In some of the Guide-books they are termed "Druidical"—a piece of sheer nonsense. These rocks are composed of sand or gritstone—were deposited at the bottom of a deluvian or antediluvian ocean—raised up by fire or some terrestrial convulsion—then subjected to mighty currents or torrents, which wore them away *horizontally* (not *vertically*, which winds and rains would have done), and last of all, they were laid bare, either by the retreat of the waters, or the elevation of the strata on which they reposed. There they now stand, or lie, or rock about on penduncular bases, having assumed the most fantastic shapes and been christened by appropriate names accordingly. Some have

thought that this "stony forest" was merely a collection of boulders fortuitously rolled together by diluvial tides or currents. But had this been the case their strata would not all have had the degree of horizontality, which they now have, except where a rock has evidently fallen out of its place, or rolled down a declivity.

Before quitting Harrogate I may just allude to a very curious kind of malady with which it was affected two or three spa-tourists of the medical tribe. The name is not in Cullen's, nor even in Good's Nosology—viz. "PLUMBO-PUMPO-PHOBIA," or the dread of lead in the pump-rooms of English Spas. Sir Charles Scudamore seems to have been the first who felt its effects at Harrogate; but the disease was of a mild character, and a few dips in the Buxton-baths cleared the worthy Doctor of his PLUMBO-PUMPO-PHOBIA. Not so with Dr. Granville. He had such a violent attack of this rare malady that it required several large draughts of Pullna water (without which the Doctor never travels) to produce the "crise," and expel the poison. We have understood that Dr. G. still feels the effects of the PUMPO-PHOBIA, and avers that such a disease exists not at any of the German Spas—for this good reason, that no pumps are there employed for raising the medicinal waters from their lowly beds.

Now we would recommend Sir C. Scudamore and Dr. Granville—and indeed all other plumbo-pumpo-phobic doctors, to examine some of the leaden pipes through which the mineral waters run from the numerous wells near the Lansdown Crescent, Cheltenham, to the Rotunda and the laboratory for making the salts there. If one of the pipes be broken, it will be found to be lined by an insoluble incrustation or amalgum that completely defends the water and the lead from any action or re-action on one another.* But admitting that this were not the case, we will venture to affirm that all the lead swallowed in a whole season at Harrogate or Cheltenham, would not exceed the dose which an individual might take at once, without any necessity for resorting to the stomach-pump. And what becomes of the millions in London and other towns, who imbibe water, porter, and other fluids through pipes and pumps, from year to year? The PLUMBO-PUMPO-PHOBIA is a chimera.†

And let us observe here that the nakedness and simplicity of an open well are not entirely free from danger, or the idea of danger. Any scoun-

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* Dr. Christison observes that this crust on the inside of leaden tubes through which saline water runs, is at first carbonate of lead, and the tube gains weight; but after a time it is changed, and adheres with great tenacity to the lead beneath. "The most careful analysis, says he, cannot detect any lead in the water, or floating in it, or united with the insoluble matter left on the side by evaporation. In short, the preservation of the lead from corrosion, and of the water from impregnation with lead, is complete." P. 482.

† Dr. Christison, in his admirable work on poisons, has shown that the presence of neutral salts in water completely deprives it of the power of holding lead in solution, So great is this protective influence, that an almost inconceivably small quantity of phosphate of soda, or hydriodate of potass in solution, will prevent the corrosion of lead! How, then, are the Cheltenham or Harrogate springs, so impregnated with neutral salts, to carry lead into the stomachs of the drinkers?

drel may throw a pound of arsenic, or other deadly poison into the old well at Harrogate, by night, and send twenty or forty bibbers to their graves next day, without fear of detection? If villains will throw logs of wood on a railway, to kill people by the score or the hundred, they may be capable of poisoning wells at a watering-place. These and other considerations have brought the Harrogate corporation to the resolution of raising a pump-room over the old sulphur well, and drawing up the water by a pump, as is done in the Montpellier wells. What will Messrs. Scudamore and Granville say to this?

It will be seen that we have extracted little or nothing from our author, having examined the spa with our own eyes, and drank copiously of its fountains. We shall here, however, quote a favourable sample or two of Dr. Granville's manner and matter—and if the Doctor had indulged less in gossip, and more in practical remarks, like the following, his volumes would have escaped censure, and secured to themselves a very extensive sale.

"At present, I applied myself with a serene countenance and an empty stomach to the quaffing of a large tumbler of the fetid stream, previously warmed by mixing with it some of the same which is kept constantly heated in stone jars placed on the top of a fireplace.

The water is perfectly colourless and transparent, and almost brisk from the escape of gas. The first impression on the tongue is intensely salt, followed by the peculiar bitter taste of salt water, but leaving an *après-goût* like that which remains after chewing bitter almonds. It goes down oily, and at the temperature at which I drank it (115°) the sulphuretted gas is scarcely perceptible. I repeated the same quantity four times, diminishing each time the artificial temperature until I drank it cold, thermometer then marking 52°, while the external atmosphere was at 60°, and the nauseous taste had increased with the descending temperature.

The whole quantity I took in four times, I noticed people to drink at twice only, and quite cold. Writers on this water have recommended the latter practice. This is an error which I was sorry to see committed at all the English spas. There are few stomachs which can bear with impunity the weight of two doses of three-quarters of a pint each of a cold, salt, and sulphuretted water, drunk with a short interval between. Few stomachs can stand the slow extrication of the imprisoned gas, which, once ingested with the cold water, is gradually disengaged by the warmth of that organ. It then mounts into the head, and produces a confused, heavy, and unpleasant feeling.

This I have put to the test of my own personal experience. Drunk quite cold, I found the water particularly heavy on the stomach, and in an hour's time my head ached not a little. Some of my younger patients in this place experienced similar effects; and, indeed, upon inquiries among strangers, who were religiously following the recommended practice, I ascertained the case to be precisely the same. At all events the first glass or two should be warmed, but not so much so as to drive off the whole of the sulphur gas.

With respect to quantity, that point has been determined by long experience, and by very competent authorities. It did not appear to me that people on whom devolved the management of the water, at the several spas I visited in this county, were sufficiently aware of the importance of this consideration. The quantity drunk, at one time, should be such that during the fifteen minutes' walk, which is to elapse between one dose and the next, the stomach may nearly have got rid of the first before it receives the second. Four ounces of liquid in-

gested will nearly disappear from the stomach in the course of twenty minutes, particularly when assisted by walking exercise." *

This was at the Montpellier sulphur well—the following passage relates to the OLD WELL.

"To that well I next extended my trial of the water upon another morning. Sallying out for that purpose at 8 A. M., I found that 'holy temple of Hygeia' thickly surrounded by people of the middle class. No contrast can be stronger than that which exists between the sort of people seen to quaff large goblets of the water here, and at the subscription-rooms; and the old women, nearly in tatters, placed in a row behind a species of stone parapet, over the top of which, as upon a counter, the salutary fluid from the well is delivered to every applicant, formed a curious sight to one who had been accustomed to behold the neat, pretty, and alert handmaidens of the Sprudel.

These noisy creatures (who look like so many fishwomen) administer the water either cold, or mixed with some previously heated, and in tumblers, in size nearly a pint. The well is behind them, and there is no lack of the water, which is squandered profusely at no charge whatever, save perhaps a solitary copper-piece, which some one, more generously disposed than the rest, throws with an air of protection on the stone counter.

I quaffed twice of this second sort of sulphur-water, about six ounces each time, and warm. It goes down as oily as the Montpellier, is not quite so intensely salt to the taste, and is decidedly without that *après-goût* of bitter almond which I think is a pleasant feature of the sulphur water at the Montpellier; and which, in the latter case, remains adhering to the tongue for some hours after drinking it.

Like the Montpellier, the water of the old-well, especially if taken cold, troubles the head, and some days gives the headach; it produces eructation of sulphuretted gas, as when one has been eating half a dozen eggs boiled hard, or in a *worse* state; it acts promptly on the kidneys, and seems to promote the action of the intestines, as well as to influence the character of its secretions in the course of the morning. When neither of these effects are produced, the water is not properly digested, and the head is the more affected." 54.

Whether the hygeian nymphs had been changed by Dr. G.'s animadversions, we know not; but certainly they were very far from being either "noisy" or looking like "fishwomen" when we were there. They were decent in their dress, civil in their manners, and quiet in their demeanor. On several successive mornings we visited the old well, as well as the others, in the middle of August, 1841, and never found less than ten or a dozen of women baling out the water as fast as they could to their expectant visitors. At no hygeian fountain on the Continent did we ever see half that number necessary for supplying water to the drinkers. This is saying a great deal for the reputation of Harrogate.

Table-d'hôtes are general at the hotels here, and living is moderate. Two physicians are resident on the spot—Dr. Kennion, the successor of the worthy Mr. Richardson—and Dr. Bennett. As the hospital stands on the very brink of the peat-bog, through which rise several sulphur springs, mud-baths might be easily prepared, and employed at the hospital in obstinate rheumatic complaints, and old-standing and inveterate

* Vol. I., p. 52.

cutaneous affections. But we were told that there was no chance of their coming into use at Harrogate. The more the pity.

Upon the whole we left Harrogate with most favourable impressions as to that spa. Its capabilities are so great, and its springs so various and numerous, that it cannot fail to stand at the very head of British mineral waters in future.

We are unable, at least for the present, to follow our lively and velocipede author to the numerous—we had almost said, numberless, minor spas which he visited—almost discovered (that is, "brought to light") north of Harrogate. Sould the ensuing "dog-days" release us for a month or two from the "dog-cart," we may march north to see the lions which Dr. Granville has shown up to the public and the profession. In this article we shall only accompany him to some of the principal spas, with which we are personally acquainted.

2. MATLOCK.

The site of "Matlock-baths" is one of the most romantic in England, or in the world. The banks of the Derwent closely resemble those of the Elbe in Saxon Switzerland—except that they are more beautiful, and less wild and barren. If mineral waters be "animated beings," as many of our German confreres believe, they are very fortunate ones. If they contain active and powerful ingredients, like Carlsbad, Marienbad, Harrogate, &c. &c. their reputation in the cure of diseases is elevated on that account. If, on the other hand, they are nearly free from medicinal substances, then they are renowned for their purity, and consequently their remedial efficacy. Where they are neither strong nor pure, but intermediate, there is their mysterious vitality, caloricity, telluricity, or some hidden property communicated to them in the bowels of the earth, which gives them the power of working miracles when they see the light.

If the waters of Matlock, which are pure waters with the dead chill slightly taken off, possessed medicinal virtues, they must have been beholden for them to occult agency or homœopathic operations. They are used as common drink by the inhabitants, and exhibited gratis to the guests of the hotels. They taste soft, light, and pleasant. We took a bath raised to 96°, and found it very agreeable to the skin. A very few grains of saline matters—magnesia, lime, and soda, neutralized, are all the medicinal agents the Matlock waters can boast of.

Matlock is often selected as an agreeable sejour in the Summer or Autumn, on account of the pure air, wholesome water, romantic scenery, and interesting excursions. We descended into some of the caves and caverns—and ascended to the highest elevations. The contrast is great —and much in favour of the latter. The exploration of the dark and damp spar-caves is by no means a

"facilis descensus Averni,"

and the "revocare gradum" is still worse.

3. BUXTON.

The drive, of some twenty miles, from Matlock to Buxton, through "Anglo-Saxon Switzerland," presents some of the best and most picturesque scenery which I have seen in England. The banks of the Avon, about Clifton, however, afford a formidable rival.

Buxton itself is now a lion of considerable magnitude among the spas of England, though formerly it presented little else than barren heaths and a gelid climate, now converted into undulating hills and dales, with wood and water, corn and meadow, river and rill—the whole forming quite a riant prospect. The air of this elevated region is bracing, and, like that of High Harrogate, imparts elasticity to the body and hilarity to the mind of man. There are a sufficiency and variety of agreeable walks for the accommodation of invalids. Buxton is more than a thousand feet above the level of the sea, and although much rain must fall in this elevated region, yet the air is not damp—colds are seldom caught—and epidemic diseases are unknown.

The Romans never failed to hunt out thermal springs wherever they existed. Although the temperature of these waters (80°) was not quite what the greasy soldiers and luxurious officers wished, yet they erected baths here, and various ruins and vestiges have been discovered confirmatory of the fact. The modern bather in these tepid floods must derive great satisfaction from the knowledge that he is plunging in the same spring where the weary limbs of Mary Queen of Scots had been laved, as well as those of Leicester, Burleigh, and other stars of their day. Useless crutches were here hung up, and numerous votive tablets erected in gratitude for the *miraculous* cures performed by the holy waters of St. Anne, the tutelar saint. But when the reign of fanaticism came, in the days of the Commonwealth, these emblems of *Popery* were demolished, and the springs themselves anathematized and outlawed! When the storms of persecution blew over, the Buxton waters gradually regained their celebrity, and the Dukes of Devonshire proved themselves to be the best tutelar saints by erecting splendid buildings round the spas—improving the roads—planting the hills—and cultivating the vales.

The baths are public and private. The public one in which we saw several gentlemen bathing and swimming, quite naked, would accommodate ten, fifteen, or twenty people, (male or female), very well in this way. A large and powerful pump, or douche, is kept in constant employment. The following description of the public bath, though a little too highly coloured in some places, is, upon the whole, correct.

"In the public bath I saw many people bathing, three or four at a time, and several in succession. The operation with most of them was expeditious, the greater number of the bathers remaining but two or three minutes in the water, and being always in motion.

The water, from the dark colour of the rock at the bottom, and the darkness of the dome, (for it is in a vault under 'the Old Hall,') looks, at first view, dingy, and greenish; but it is as limpid, transparent, and colourless, as the one I drank at the spring. The form of the bath is an oblong square. The water surges about the middle, near the outer wall, to the height of four feet, and

passes off at one of the extremities of the bath by waste pipes. Bubbles of air may be seen rising in succession from time to time. At other times a single one, much larger than the rest, will come up, to break at the surface.

The people bathing differed, it appeared to me, in opinion as to the impression made on them by the water. Some said it was very cold; others declared it was very comfortable. As the sun darted a slanting ray through the half circular window close to the vaulted ceiling over it, the surface of the water exhibited a gathering of scum, having an unusual appearance in any mineral water, which took away from me the temptation I had at first experienced of trying the effect of the Buxton water at this nearest point of its source.

The overflowing or escape of the surplus water through the waste pipes, is never so quick but that the said scum, or floating matter, remains too long spread over its surface,—as I witnessed during the half-hour I kept watching the proceedings of those who were in the bath. Indeed, one of the attendants comes now and then with a broom, and sweeps from off the surface the coarser particles, and thus restores to the water its natural appearance. But, at best, this is but mixing up with the water, or dissolving in it, the objectionable substance.

Altogether, the bathing in such a *piscina* was not such as to please my fancy; and when I beheld the class of persons, too, who kept coming in (for the access is free, and the bath always open), and their dress and appearance—when I saw the pot-bellied farmer of sixty, half palsied, and the lame artisan with his black and callous hands, and the many who suffered from cutaneous disorders—all plunging together, or one after the other, in quick succession—some of whom would set about scrubbing from their hardened cuticles the congregated perspiration of ages, with a handbrush kept *pro bono publico* on the margin of the bath;—I say, when I beheld all these things, I confess my courage failed me, despite of my constant desire to try on myself, and ascertain by my own feelings, the effects of the various mineral waters I have examined."—*Granville*, p. 65.

The gentlemen's and the ladies' private baths (natural temperature) are at some distance from the source, and are cooler. We did not bathe in these but in the public bath, and certainly perceived very little shock on the first immersion. In a minute or two, the water felt very comfortable. The following is Dr. Granville's description of the effects of the private bath at natural temperature—or rather two or three degrees below 82°.

"I entered the bath about twenty minutes before eight, A. M., my pulse at eighty-two. I had drunk half a pint of the mineral water some time before. The immersion was by the steps, and therefore gradual. The feeling of cold on the skin produced by the first approach of the water formed a striking contrast with the pleasing warmth of the atmosphere of the room. When I let myself down into the middle, and at the bottom of the basin, by holding the chain which hangs from the centre of the ceiling, the shock was precisely similar to what I have often felt when plunging into the open sea at the same time of the day and year. It took my breath away, and tightened the thorax, producing, however, not the slightest vestige of disturbance, either in the head or in the movements of the heart.

I partially got out and recovered my breath, and again plunged into the bath, all within two or three minutes. The water felt still cold, but not so as to affect the respiration this time. After the first four minutes, I being either standing upright on the tiles which felt cold to the feet, or floating horizontally under the water, a degree of warmth began to pervade the body along its surface, and was evidently on the increase at every half-minute. The skin felt soft—not puckered nor corrugated in any part, as is generally the case in warm water, and many

mineral springs; when the hands were passed over the body, they glided readily over it.

Even after a few minutes longer, I experienced no inclination to sleepiness, and the head continued in the same state as when I went in. Before I left the bath, however, I ascertained that, contrary to the effect produced by an ordinary warm-bath, if I raised my limbs from the middle of the depth to nearer the surface, the difference of feeling, as to warmth, was what I should have estimated at about three or four degrees of increased temperature.

So much so was this the case, that quitting the position in which the limb was previously stationary, and around which the water felt as if it had grown cold, and raising it to the position before alluded to, I could have imagined that I had placed my limb into a totally differently-heated water—into one, in fact, of a regular tepid bath, so genial was the first impression. But then it was only a *first* impression, which soon vanished, to be again renewed by seeking with the limbs, or any other part of the body, another and a new position.

At the expiration of about ten minutes, I might have fancied myself, from my own feelings, in a bath of 94° or 95°, or in a regular tepid bath; and this apparent feeling or impression was even stronger if I got on the steps of the reservoir, and quite out of the water, and immediately plunged into the water again.

Judging from this single experiment, which I have detailed minutely for very obvious reasons, I should say that the proper mode of using these baths would be, not to plunge, but to walk gradually and quickly into the water up to the chin, and out of it as quickly again. This operation should be repeated at least three or four times, occupying perhaps two minutes each time in doing it; and lastly the bathers should return into the water for the sake of a real bath, which would then produce pleasurable sensations, and could be borne very well and quietly for ten minutes longer, or even a quarter of an hour,—during which time, the body would receive the full benefit of these volcanic waters.

There is no disguising the fact: Buxton is a cold and not a tepid bath, and only becomes tepid to the feelings by a little time and management—the same as in the open sea—but not in an ordinary water-bath at 83°. The difference here is, that the warmth, when once felt, is a permanent sensation, were you to remain even hours together in the bath; whereas in ordinary water, tepid bathing, or the open sea, or in a river or a spring in the sun, the water which at first might seem tepid, would soon progressively feel colder and colder." 39.

When we consider that these waters contain only about two grains of saline matters in the pint, we can hardly suppose that they lose much of their medicinal agency by being heated by steam to the temperature of the body, or even of the blood. Dr. Granville, however, is of a very different opinion. "The most marked effect of the Buxton water (says he) is that of stimulation, whether the water be taken internally or used externally." And a little farther on he affirms that—" the fact is, again, that the stimulation is due, not to *thermometrical* heat, but to the portion only of *telluric* heat inherent in the water." This statement we cannot contravene, not having been *deep* enough in the bowels of the earth to distinguish between thermometrical and telluric heat. All we can say is, that in bathing at a temperature of 98° in the private baths, we experienced as agreeable sensations as we ever did in the Serpent's Bath, Wildbad, Tepliz, or Pfeffers. The lubricating quality of the Buxton water is very peculiar. When we rubbed the hand over the surface of the body or against the tiles, the parts felt oily—or as Dr. Belcome of York once characterized it to us—it was like bathing in new milk. The water itself is beautifully clear. We quite agree with Dr. Granville in the following remark. "It was beautifully

transparent, and of a faint aquamarine colour. The minutest object could be perceived, but magnified considerably. The very lightest coloured hairs on the arms appeared dark from increased size, which seemed double their natural one at least." When the bath was cleared out, Dr. G. observed a kind of "oily slime" adherent to the sides; and yet he avers that the skin of the body felt *rough*, when the hand was passed over it in the bath. This was the very reverse of the feeling which we experienced —a feeling corroborated by every one with whom we conversed on the subject. Let those who plunge into the warm waters at Buxton decide the point. We cannot help thinking our author rather too fastidious in respect to the private baths. The ante-rooms and every thing connected with them, are infinitely more tidy and clean than at his favourite "Furstenbad" at Wildbad.

The font for drinking the water is certainly not quite like that at Marienbad or the Pump-room at Bath: while the very old dame who hangs over the slender rill, would seem a good specimen of Buxton longevity—perhaps of the salutary influence of the waters. It has neither colour, taste, nor smell. Its medicinal effects are much less determinate when taken internally. But, in either case, we imagine that these effects are better ascertained by experience on the spot, than by any hypothetical theory founded on caloricity, vitality, telluricity, &c. by temporary sojourners at this or any other spa. Sir C. Scudamore, assisted by Mr. Garden, detected 4½ cubic inches of azotic gas in a gallon of these waters, and to this Sir Charles attaches considerable importance.

"With regard to the Buxton water, (says Sir Charles) the subject of my present inquiry, it certainly happens that, simple as it appears in composition, it does prove inconveniently stimulating to some persons of full habit and of the sanguineous temperament. They complain of flushing, headache, and slight giddiness, and are deterred, by such symptoms, from proceeding in the course of drinking it. Many instances have come under my observation in which the exciting power of the water has been proved in the gouty patient; symptoms of a paroxysm having occurred in a few days after its commencement; subsiding, also, upon its being discontinued, and from the aid of medicine.

Others, and those especially who have a weakened condition of the nervous energy and of the muscular power of the stomach, complain that the water is felt as a dead weight on the stomach, that it is slow in passing off, and that, until it does so, they are much oppressed and inconvenienced.

These, however, are the exceptions, and not the rule; for, in general, the water agrees remarkably well, and is drunk freely without any unpleasant result; but, on the contrary, with benefit and satisfaction." *

The operation of these waters on the bowels is variously stated by different patients and practitioners: some of the former representing it as aperient, others as constipating. The probability is, that Buxton water has no specific action on the bowels, in either way. There is no doubt, however, of its diuretic properties—and the author just named, considers it useful in many cases of indigestion where there is no inflammatory or congestive condition present.

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* Second Edition, p. 22.

Sir Charles details the mode of taking the waters internally, and ascribes all their medicinal effects, thus taken, to the azote which they contain.

"For the same reason that many persons speak of this water as being too simple in its composition, too much like common water to claim any reliance upon it as a medicine, do I think favourably of its qualities; namely, from its purity, owing to the remarkably small proportion of its solid ingredients, and from its gaseous impregnation with azote, qualifying it in so eminent a degree to fulfil the valuable purposes of a stimulating diluent; and which, taken on an empty stomach, or scarcely occupied with any food, acts favourably, in the first instance, on this delicate organ, and quickly finds its way into the circulation, producing ulterior good effects. In diluting, and assisting towards the removal of any acrimonious secretions which may be delayed in the stomach and duodenum, this aqueous diluent may have much more useful effect than may be at first sight imagined; particularly by those who see a remedy only in what is very potent in its nature and composition."* 24.

It is as a bath, however, that Buxton has attained and still sustains its reputation. Sir Charles Scudamore is far from wishing that the subterranean boiler had thrown up water at a higher temperature than 82°—"so happily intermediate between the warm and cold bath," which neither excites by too much stimulus of heat, nor depresses by too much sedative influence of cold. In this he disagrees, *toto cælo*, from Dr. Granville.

Dr. Robertson, one of the resident physicians at Buxton, remarks that —"chiefly owing to the alkaline properties of the water, the skin is speedily cleared of all scurfiness and impurities, and is rendered most singularly and delightfully smooth."

It has been seen that Dr. Granville experienced the very opposite effects. The doctor's sensibility was probably a little deranged at the time. It clearly was so at Wildbad.

"The mode of entering the bath is a point of some importance. It is necessary to make the immersion as quickly as possible, in order that the shock and the consequent re-action may be instantaneous. When there is no infirmity to prevent it, the patient should, with the least delay after descending the steps, fall forward, so as to receive entire immersion; and, at the first time, be contented with this, leaving the bath immediately. The stay in the bath is to be gradually increased afterwards, and the maximum duration will vary in different cases; this averages from four to fifteen minutes.

It is the fault of many to remain too long; in doing which, they are deceived in expecting the tonic effects of the bath. Those who are vigorous enough, and become accustomed to the bath, may make their plunge from the side of the bath, taking care, as I have known some very imprudently do, not to dive as it were with the head downwards. The gravitation of the blood in this mode might create serious mischief." † 34.

Sir Charles considers an hour or two before dinner as the best time of day for taking the bath, some exercise having been previously used. It is absolutely necessary that the bowels should be in a clear and open state, before the bath is commenced.

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* Scudamore, 2d Edition. † Ibid. 35.

"The class of patients (says Sir Charles) resorting to the Buxton bath comprise, for the most part, those who have suffered from either gout or rheumatism. But it is by no means equally proper for the gouty and the rheumatic invalid under circumstances apparently similar. The pains of chronic gout imply a state of the system which requires particular treatment by medicine, before the use of the bath should be considered admissible. This may often be necessary also in chronic rheumatism, but the condition is not so positive.

The bathing will be a valuable remedy to relieve that debility of limbs, and of the whole constitution, which is a frequent sequel to chronic gout, and which seems to partake very much of the nature of rheumatism. But as there is no such thing as a universal remedy, so it will not unfrequently happen that, when the frame has become enfeebled by the often repeated attacks of gout, the reaction in the natural bath is insufficient, and the immersion is followed by chilliness, nervous depression, and languor, and discomfort, throughout the day. It is obvious that in these instances the warm bath must be chosen, so graduated, that either the patient may be brought back to the use of the natural bath, or continue the artificial, in order that it may act as a tonic to the body, and not as a relaxant.

Till about twenty-five years ago, the warm baths had not been introduced at Buxton, and therefore it was not a matter of choice whether they should have the preference. But now it is a general rule, and one I think pursued with great propriety, that from one to three or four warm baths should be used as a preliminary to the natural bath; if one only, the temperature may by 95°; if in a series of three or four bathings, the first may be 90° or 96°, and the succeeding a degree less each time, the stay in the bath being also proportionably shortened. During the immersion it is useful to employ diligently a good flesh-brush all over the body, but especially over the most affected parts." 36.

In respect to rheumatism, if it partake of the acute character, Sir Charles prohibits the natural bath—which he has often known to produce acute rheumatism, when employed too soon during convalescence from rheumatic fever. Sir Charles very properly recommends that all inflammatory symptoms be removed before any bath be used. The following quotation is long; but it conveys important information to those practitioners at a distance, who are preparing to send their patients to Buxton.

"The state of the gouty patient also requires to be well considered before permission is given for the use of the natural bath. If the diathesis of gout be at all considerable, the production of more or less of a paroxysm would be a sure consequence from a few plunges; and although no serious mischief might occur from this result, yet disappointment would be experienced, and the loss of time would be regretted. In all doubtful cases, the tepid bath should alone be the chosen remedy; and, in conjunction with it, such medical treatment as may prepare the constitution favourably for the best effects of the natural bath.

Some persons having suffered much misery and discomfort from various obscure symptoms, which commonly receive the name of suppressed gout, have resorted to Buxton with a view to elicit the disease in a definite form, and fix its action. For them, the warm bath is obviously the remedy; and indeed in cases of this nature, which are rare amongst the visitors of Buxton, it is right to say that, for the most part, a still more appropriate remedy might probably be found in the waters and baths at Bath; which, although not so fashionably resorted to as half a century or more ago, cannot have lost any part of their admirable medical powers.

Even when the gouty patient does appear in a fit state to use the natural bath, it will sometimes happen that, in a short time from its commencement, an attack

of gout will unexpectedly take place; yet I have rarely seen it happen severely and never really to be injurious. It is desirable that it should be brought out rather than lurk in the system; and when such paroxysm has been treated judiciously by medicines appropriate to the gout, the use of the bath may be resumed, and will most probably be quite successful.

Both gout and rheumatism affect various textures of the body, as the synovial membranes, those immediate to the joints, and the bursæ mucosæ and the sheaths of tendons; the apponeurosis or tendinous expansions of muscles, tendons, ligaments, and nerves; and cellular membrane rather secondarily than primarily. Sometimes, yet very rarely, the belly of a muscle is affected by rheumatism, being swollen and tender; far more commonly, the seat of the disease is in its expansion into tendon, and its tendinous insertion. In general, the synovial textures and the ligaments are affected in common; occasionally, much more in the one kind of structure than the other, but seldom exclusively. The Buxton bath will be a very proper remedy for trial in all these morbid states, but it will not prove equally efficacious in all.

In rheumatism of the ligaments, its remedial powers are the most quickly shown; and, next, when the disorder affects the bursæ. The cases most unyielding, are old affections of the sciatic nerves; yet I can state, with truth, that I have had the satisfaction of witnessing very great relief afforded by the bath in some chronic cases of sciatica of very long standing, and which had resisted the ordinary means of treatment.

Neuralgic disease embraces a very important class of cases. Its most frequent form is neuralgia rheumatica, or that painful state of nerves, acute or chronic, which has evidently been induced, like ordinary rheumatism, by exposure to wet and cold, when the nervous system has been in a morbidly susceptible state. Most frequently it appears as sciatica; but any other of the nerves of the extremities may be similarly affected. The branches of the femoral nerve are not unfrequently in this way disordered; occasionally, those of the brachial nerve, and other muscular and subcutaneous branches.

The bath and the use of the pump will be proper in all cases of this description, when the nervous painful irritation is not attended with inflammatory action; or with some evident disorder of the internal functions, requiring appropriate medical treatment as preparatory to the bath.

Neuralgia spasmodica, or tic douloureux, cannot be treated specifically by the bath; nor will it be proper in this severely distressing complaint, except as an occasional refreshment and source of invigoration, and provided that there are no contra-indications for its use. It can only be recommended as an adjunct to other treatment, and under great regulation, and medical guidance.

In that infirm state of the lower limbs which almost amounts to complete paralysis, and which is always to be referred to a disease in the spinal column, the use of the bath and of the pump is admissible, and I have seen it prove useful in such cases; but we must not expect more than slight benefit; and indeed all other means that can be devised are too commonly of little avail towards a cure. Great alleviation, however, of suffering and inconvenience may be rendered to the afflicted patient. It is not the reproach of the medical art, that every case of disease does not allow the possibility of cure.

A very valuable part of the Buxton treatment consists in the use of the forcing pump, which is a remedy of considerable power; and being so, its administration requires more exercise of discretion than I think it commonly receives. Some persons think they cannot have too much of it, either as to its strength, or duration, or repetition; and again, and again, have I seen inflammatory irritation produced by the violence of its employment.

It is particularly useful in reducing enlargements of the bursæ, and in restoring tone to weakened ligaments.

It is always proper to commence the use of the pump with moderation; for

example, from ten to twenty strokes on the particular part affected, and to be moderately given. According to the effects produced, it is to be increased, both in the force with which it is applied, and in the number of the strokes. When the patient, throughout the day afterwards, feels more or less sensible benefit, and does not experience nervous irritation unusually after getting to bed, it may be received as a proof with regard to the pump, as to the bath, that the treatment agrees, and that it has been correctly used.

In particular cases, it may be desirable to use the pump on the days of omitting the bath.

I am convinced that the advantages of the Buxton bath are most materially increased, when proper friction and *shampooing** are used in conjunction with it. I think the early part of the day is the fittest time; although, in some cases, it is not very material when it is used. When the circulation in the lower extremities is languid, and there is a disposition to œdema, this treatment would be very suitable soon after the quitting the bath; provided that the invalid is not fatigued, and requiring rather some repose on the sofa than further excitement of any kind.

By such treatment the circulation of blood in the weak muscles is actively promoted, without the least fatigue to the patient; and other good effects upon the infirm limbs are by degrees produced. I may briefly define the advantages of this treatment to consist in the influence which it may possess, to relieve the parts from the effects of preceding effusion by exciting the absorbents to unload the cellular membrane; to assist in restoring the lost freedom of motion in the tendons and ligaments; to renovate the capability of proper contraction and relaxation in the muscular fibres; to improve the circulation as above stated; and conduce to a more perfect transmission of the nervous influence.

It will be asked in what other kinds of disorder, besides gout and rheumatism, may the Buxton bath be looked upon as a remedy.

Since so much can be justly said of its restorative tonic powers, it would naturally occur to the minds of most persons, that paralysis would be a very fit occasion for its useful influence; the natural association being, in the view taken of the question, debility of nerves and muscles, and a soothing tonic bath. But there is no kind of disease more requiring cautious consideration in the treatment. It is true that many cases of paralysis owe their origin to some disordered condition of the spinal marrow; but, in most cases, and especially the recent, there is prevailing an attendant ready susceptibility in the vessels of the brain to be unfavourably excited; so that if the general circulation be over stimulated by errors in diet, strong liquors, or disturbed in its balance by the influence of a plunging bath, of any temperature, causing a re-action, and a consequent forcing of the circulation, if I may so express it, apoplexy, or a condition bordering upon it, might be produced; and, indeed, I have witnessed, more than once, such a result to happen from the imprudent use of the Buxton natural bath.

In old cases of paralysis of the limbs, which, from their origin, have been clearly referrable to the spinal marrow, and not to the brain, the use of the natural bath and of the pump is very admissible, and I have known such patients use both with perfect agreement; yet cases of this unfortunate description so little admit of curative treatment, that any great benefit is not to be expected.

In every case of paralysis arising from disorder of the brain, it must be highly improper to make use of a plunging bath; nor should a hot bath of high temperature be permitted, for the obvious reason of its being dangerous to excite the circulation in a sudden and great degree.

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* "There are, at Buxton, appointed persons always attending in the season, well qualified by their experience to render all the benefits which can be derived from this auxiliary mode of treatment."

In cases of this nature, it is very difficult to do good by any active medical interposition, but very easy indeed to do harm; and a prudent physician is therefore more inclined to use passive than active measures; to employ, chiefly *la medécine expectante*, and lay down rules of general management in the diet, exercise, conduct of the mind, and every moral circumstance which can be under the control of the patient himself, or his friends.

In cases of paralytic weakness of a limb, the consequence of gout, rheumatism, or the introduction of lead into the system, inveterate disorder of the digestive organs, and bodily accident, the use of the natural bath and the pump will be unquestionably proper:—I may add also for the effects of strains.

It is very common for persons in health, staying at Buxton, to make use of the natural bath as a matter of enjoyment; and, so that it is used with discreet frequency, and under proper regulations, I see no objection to it; nor am I aware of having seen any ill consequence resulting from it, where the prudence for which I stipulate has been observed. I must here, however, remark that it will not invariably agree with persons who call themselves well; so true is it that, from idiosyncrasy of constitution, there are individuals who find rather disadvantage than benefit from persisting in the use of any kind of bath whatever." 42.

The Buxton season lasts from the middle of May till the end of October. Numerous cases are detailed by Sir Charles illustrative of the efficacy of Buxton waters, at which hygeian font he has now presided for very many years, during the Summer and Autumn. These cases we shall pass over—as well as the observations of Dr. Granville, who, like ourselves, have only *distal* experience of the waters in question. The following passage, however, deserves a comment.

"Where I have seen the Buxton waters perform wonders has been in persons who, having had annual, or perhaps semi-annual attacks of genuine painful gout, have not courage enough to support pain, fly at once to that *curse of the human constitution colchicum*, to quell the knawing dogs, and purchase a lull from sufferings at the *inevitable* risk of multiplying the attacks of the disease."

From this it appears that Dr. Granville leaves painful attacks of gout to the treatment of Dame Nature! It is clear that Dr. G. never had gout himself—and we must say that the mode of treatment at which he hints is not only injudicious, but it is positively *injurious*, and tends to multiply the attacks of the malady, and also the sequelæ of the disease. There is not a safer medicine in the Pharmacopœia than colchicum properly administered. Its assistance in removing the attack, never augments the tendency to return, when it is conjoined with proper remedies and followed by proper regimen. Upon second consideration, we shall introduce the following case from Sir Charles Scudamore, as it will show the bad effects of using the waters of Buxton without due preparation by medicine.

"A gentleman, aged 50, of the nervous temperament, formerly a free liver, had suffered long and severely from acute gout, but latterly from the chronic form of the complaint. He was reduced in flesh and weak. He was affected with alternating pains in the head and limbs, so much increased by change of weather that he considered them to be rheumatic, and under this impression ited Buxton, for the purpose of using the natural bath. Neglecting all pre- atory treatment, he bathed three times, within five days, in the public bath. each occasion he felt chilled at the time of immersion, and did not receive fortable warmth afterwards. His head was constantly painful, and the limbs

in no degree relieved. On the day following the last bathing, I was consulted, and found him suffering from many urgent symptoms. He described his head to feel as if too full of blood, and he had great confusion of thought. Gout had fixed in one foot and one knee, with much pain, but only slight signs of inflammation. He had general pains over the body, with frequent nervous shiverings. I found the strongest indications of error in the digestive organs, *and prescribed active aperients and alteratives, in conjunction with the moderate use of the acetum colchici.* Leeches were applied to the temples, and a very small blister to the neck.

By these means all the active symptoms of complaint were in a short time removed, and I then directed the use of the warm bath, beginning at the temperature 96°, and gradually reducing it to 90°; after which he returned to the natural bath with perfect success. He continued it for six weeks, under strict regulation, and obtained a very satisfactory recovery. He also derived benefit from drinking the water of St. Anne's well." 45.

4. LEAMINGTON.

Leamington is a place of many medicinal springs; but the main spring of the place is a medicinal doctor. Physicians, like other people, sometimes build houses, but few, if any, have ever founded cities or towns. The father of physic, indeed, enriched his native isle by attracting strangers thither for the benefit of his advice, but the Coan sage constructed no town out of the profits of his profession. Virgil is said to have written his own epitaph, part of which ran thus: MANTUA me genit—ROMA me fecit." If the far-famed Hippocrates of Warwickshire were to commence his epitaph with "LEAMINGTON me genit," the grateful town, had it as many tongues as it has tiles, would instantly respond, "JEPHSON me fecit," and thus interrupt the epitaph writer. But, however the final inscription may run, or whatever the doctor's contemporaries may think or say, it seems unquestionable that HE must have possessed no mean degree of skill and talent, who could convert grains of salt and steel into tons of gold and silver.

The medicinal springs of Leamington all lie within the range of a musket-shot from the bridge over the Leam. And yet their names have undergone such changes within a few years, that it took us a whole morning to decypher Dr. Loudon's account of them, published in 1831. The worthy and talented Doctor enumerated them according to their ages, but fortunately annexed their localities, which enables the stranger to recognize them in despite of the changes in their titles. Passing over the little bridge that spans the almost stagnant Leam, and leaving two great spas on our right hand, we come to the "Old Well," or No. 1, the father of them all, and whose origin is shrouded in the mists of antiquity. It is in front of an old church, near the river in Bath Street, and has two spouts or pumps, one on the outside, *pro bono publico*, the other inside of a little pump-room, for all who can afford to pay, either by the day, week, or month.

The water of this well presents (in the pint) the following ingredients:—

Sulphate of soda	40½ grs.
Muriate of soda	40
Muriate of lime	20½
Muriate of magnesia	3¼
Peroxide of iron . . . . a trace.	
And the same of iodine and bromine.	
Total . . .	105 grs.

This pint also contains a small quantity of oxygen, half a cubic inch of azote, two cubic inches of carbonic acid gas, but no sulphuretted hydrogen.

No. 2.—Formerly ABBOTT'S, now GOOLD'S.

This was discovered in 1784, and is situated a little farther on, on the opposite side of the same street, and to the south of the Bath Hotel. It is called "Goold's original Spa or Baths." When first sunk, it caused the water in its ancient neighbour (the Old Well) to subside several feet. Its contents, as might be expected, are almost exactly the same as No. 1, except that it presents five or six grains more of common salt. Here the first baths were erected in Leamington, and are now in fair and respectable condition. It has a large Turkish bath, in addition to cold, warm, vapour, and shower-baths.

No. 3.—WISE'S, now CURTIS'S WELL.

This was sunk in 1790, and is situated at the corner of Bath Street and the Royal Parade. Its analysis, and that of the other two wells, was published by Dr. Lamb, then residing in Warwick, and tended to bring Leamington into more repute, though still local. Its constituents differ only from those of the others, in shewing less muriate of soda by twenty grains, and more muriate of magnesia by the same quantity.

No. 4.—ROBBIN'S WELL, now THE VICTORIA.

This was opened in 1804, and is one of the two grand pump-rooms on the banks of the Leam, and close to the bridge, but on the south side of it. It was now that a revolution took place in the spas of Leamington. From being drunk at the original fonts, and as they issued from their subterranean reservoirs, they were then enclosed in buildings, pumps inserted into the natural wells or fountains, the medicated streams foamed from silver cocks, and were distributed to invalids by the hands of fair priestesses of the respective temples of Hygeia.*

As the reputation of the springs rose, so did the number of houses and hotels. Two years after the opening of the VICTORIA, two other springs in the same locality—

Nos. 5 and 6,

READ'S, now LEE'S WELLS—sprang into existence; one a strong sulphureous, a second Harrogate water, the other a saline chalybeate.

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* This well contains ten or twelve grains less of sulphate of soda (viz. 28 grains in the pint) than the original well, but presents no other differences worth notice.

ANALYSIS.

The SULPHUREOUS spring shows better than three cubic inches of carbonic acid gas—and more than an inch of sulphuretted hydrogen gas in the pint. It contains 28 grains of sulphate of soda—25 muriate of soda—15 muriate of lime—9 muriate of magnesia—in all 79 grains in the pint. Its taste is not quite so nauseous as that of Harrogate; but it is much used both as baths and for drinking.

The SALINE neighbour shows 103½ grains of solid matters in the pint, of which 30½ are sulphate of soda—43 muriate of soda—18 muriate of lime—10 muriate of magnesia—⅓ of a grain peroxide of iron. Its taste is unequivocally chalybeate.

Hitherto the medicinal springs were all confined to the Old Town, on the south side of the Leam. In 1808, a spring was found on the north bank, exactly opposite the Victoria, to which the name of

No. 7—or "ROYAL SPA"

was given, and over it was erected an elegant pump-room, with extensive suites of baths—and a large piece of ground for promenades, music, &c. This spa also presents two springs—one sulphureous (weak), and the other saline. The SULPHUREOUS only contains fifteen grains of solid matters in the pint, of which six are sulphate of soda—five muriate of soda—three muriate of lime. The sulphuretted hydrogen gas amounts to one cubic inch and a fraction. The taste, or rather the flavour, is, however, decidedly sulphureous—the taste very weak.

The SALINE Chalybeate Well here is the strongest in Leamington, affording 136 grains of solid matters in the pint. Of these, thirty-two are sulphate of soda—sixty-seven muriate of soda—twenty muriate of lime—twelve muriate of magnesia—one grain nearly of peroxide of iron—three cubic inches of carbonic acid gas. This is the spa that appears to attract the greatest number of drinkers—partly from the strength of the saline chalybeate—partly from the size of the pump-room—and partly for the pleasure-grounds and music.

But it was in 1819, that the good fortune of Leamington was supposed to have been consummated by the discovery of three springs in Clemens-Street, close to the Royal Parade—one chalybeate—one pure saline—and one sulphureous. The chalybeate was found to contain the enormous quantity of eight and a-half grains of peroxide of iron in the pint, held in solution by silica! ! ! The imperial gallon of this water contained 1,085½ grains of solid matters—of which 274 were sulphate of soda—442 muriate of soda—200 muriate of lime—31 muriate of magnesia—silica 68—peroxide of iron 68 grains!

We anxiously directed our steps to this wonderful spring; but what was our astonishment to find it closed up—as we were informed, for two or three years past. No one could tell us how or why. The "IMPERIAL FOUNT," as it was termed, and as is still written upon the house—had vanished into air, or gone back to its hidden source in the earth! After puzzling our brains for a good while, the solution of the enigma suddenly burst on our mind. It was Dr. Jephson's powerful MAGNET that had drawn the steel out of the Imperial Fount—and hence the "MAGNETIC IRON" which he has so freely prescribed for many years past.

The alteration which even ten or a dozen of years have produced in Leamington, is absolutely astonishing! A new town—JEPHSTOWN, it ought to be called—has spread up from the lazy Leam, in parades, crescents, and elegant streets, till they have enclosed the mansion of their architect, which used to stand alone in its glory. The place, however, is overbuilt—and for this good reason, that its prosperity and increase of visitors do not rest so much on the efficacy of its waters as on the reputation of its MAGNUS APOLLO. Let the SUN withdraw his beams, and Leamington will experience a sad falling off!

Still, it must be acknowledged that the waters of Leamington are powerfully remedial agents, and are formidable rivals of those at the far-famed Cheltenham. They may be taken with perfect safety at all seasons of the year, though the most usual period is from the beginning of May till the end of October—on account of the auxiliaries which air and exercise bring to the spas. The best time for taking the waters is before breakfast—and next to that about noon.

THE SALINE SPRINGS.

Some preparatory steps ought to be taken, both in respect to aperient medicine, and the reduction of vascular fullness when any such exists.

"The preparatory steps being premised, a common pint of the water may be taken; one half about seven o'clock in the morning, on an empty stomach; the other in about twenty minutes afterwards; walking exercise being used between the first and second part of the dose, and after both have been taken. For children of twelve years of age, one-half of this quantity will be sufficient; for those of six, one-fourth. Under the age of six, they should scarcely ever be employed.

The immediate effects of the saline waters, when taken internally, in aperient doses, are of three kinds. Either they produce an increased action of the kidneys, or bring on nausea, sickness, headache. flushings of the face, distention of the stomach, determination to the head, and other disagreeable symptoms; or, finally and most frequently, they act on the bowels without inducing any of these signs. In the first case, they require only to be increased in the dose, to produce the aperient effect; while, in the second case, their use is not prohibited by the unfavourable effects arising from their employment, unless the remedies resorted to for removing them should prove ineffectual. The second class of symptoms frequently supervene from a deranged state of the alimentary canal; and by a little attention to the digestive organs, and to the dissipation of the gases, may be avoided. When they pass off by the kidneys, their use may always be regarded as pretty safe, and their action as salutary."—*Loudon*, p. 52.

The saline waters of Leamington are most frequently resorted to for affections of the digestive organs, and where aperient effects are desired and desirable. In several external diseases, as chronic ophthalmia—ulcerations—and some cutaneous complaints, for which, however, the sulphureous are more adapted.

"The saline waters of Leamington are also entitled to great regard, as alterative agents; by which is meant, a class of substances that possess the power of gradually improving the condition of the system, without affecting the patient very sensibly at the time they are taken. The minute division of the ingredients affording a very easy entrance for the particles into the vascular system, necessarily renders their influence very extensive over every tissue of which the animal

frame is composed; and that this absorbent action does take place there can be little doubt, from the diuretic power which they possess. It is thus, chiefly, that the saline waters are so much celebrated for those disorders, which, in their first and most inflammatory state, affect the whole system; and which, afterwards, leave a weakness and loss of motion, with transient pains, and other adynamic symptoms in the limbs. In these affections, however, of which gout and rheumatism may be adduced as examples, no patient should venture on the internal use of the class of remedies under consideration, until every discernible sign of the active state of the gouty and rheumatic diathesis shall have completely subsided. Nor should a slight exacerbation of the disease, more especially of the gout, induce the patient to abandon the use of the water. Such a consequence is an occasional occurrence, and it has, with some propriety, been referred to the stimulating properties of the muriates. It will be prudent, therefore, to suspend the use of the springs during the attack, and to resume them at some after period, when these symptoms have passed away."—*Loudon*, p. 55.

Dr. Loudon considers these saline waters as extremely useful in cachexy—strumous swellings—abdominal tumefactions—mesenteric disease—white swellings—spinal affections, &c. not from any specific powers or qualities of the waters, but from their alterative effects and improvement of the general health.

"Mild as the saline waters usually are, an indiscriminate use of them, like the abuse of every other medicine, proves very hurtful to the constitution. When repeated too often, a febrile state is induced by the application of the saline particles to the mucous membrane of the intestine, which, by withdrawing at the same time a quantity of fluid from the general circulating mass, is followed by a diminution of the vital functions, an effect which, it is evident, in enfeebled constitutions, it is of the greatest importance to avoid. Not less frequently do the harrassing and painful symptoms of hemorrhoids follow the immoderate use of the waters. When employed in drastic doses, diarrhœas, of the most troublesome nature, frequently supervene; more especially in habits of a peculiarly irritable nature."—*Loudon*, p. 57.

SULPHUR SPRINGS.

These waters are taken in the same doses, and in the same manner as the salines; but as the taste is not very agreeable, some peppermint or cinnamon water is often used with them. The palate, however, soon gets reconciled to them.

"When the sulphureous waters are likely to be serviceable, they excite, immediately after they are taken, no very particular sensation of any kind. On the other hand, when they sit unpleasantly on the stomach, occasion head-ache, dryness of the tongue and fauces; or sickness, and do not pass off by perspiration, or excite some of the excretions, their operation may be looked upon as unfavourable; and they ought, after the auxiliary means have been fairly tried, to be discontinued.—*Loudon*, p. 59.

Dr. Loudon advises that heat should hardly ever be applied to the sulphur waters, as the gases are thereby dissipated, and much of their virtues lost. When they are found to be too strong for the stomach, some hot saline water should be added, and the mixture drank immediately off. We recommend the following passage to the attention of our *Anglo-Germanic* spa doctors who are horror stricken at the idea of any medicinal auxiliary

to a mineral water. The fact is, that most of these pharmaco-phobists know extremely little of the practice of medicine.

"In almost every case for which the sulphureous wells are resorted to, the preparatory plan, pointed out for the saline water is necessary. In order, also, to produce the full effect, it will be proper, in numerous complaints, to assist the waters by some medicine calculated to act as an adjuvant during the whole period of the course. Not unfrequently it happens, with regard to the sulphureous waters, as well as the others, that, instead of the aperient effect which they are all primarily calculated to produce, there is, simply, a fluid discharge from the intestines; which, by being deceitful to the patient himself, at the same time leaves the cause of the disease lurking in the constitution. If the object be to evacuate completely the contents of the alimentary canal, recourse is frequently had to a quantity of the prepared salts.* But, valuable as these are as laxatives to obtain a free expulsion of the contents of the bowels, some more active aperient medicine must be substituted. Nor should it be forgotten, that in every ailment there is usually more than one indication to fulfil, towards effecting the recovery of the patient; and hence, in a variety of cases arises the advantage of combining a suitable auxiliary treatment along with the water, by means of which the disease may be cut short in a much less period of time than if the mineral fluid was simply employed."—*Loudon*, p. 61.

An alternation of the sulphureous, with the saline or chalybeate waters is recommended by Dr. Loudon. In cutaneous complaints, these waters require to be continued, both internally and externally, much longer than the others.

"The sulphureous waters are contra-indicated in acne rosacea and punctata. When employed as purgatives, they are also, in larger doses, improper, in old people with leuco-phlegmatic habits; for as in the previous kind of water, by diminishing the quantity of fluids from the circulating mass, emaciation, low spirits, general debility and dropsy, may succeed. In very large doses they produce emesis similarly to the saline and the chalybeate."—*Loudon*, p. 64.

CHALYBEATE SPRING.

Dr. Loudon makes many judicious observations on the use and abuse of the Chalybeate Spring at Leamington; but as this well is shut up, and as we have introduced sufficient remarks on the action of chalybeates already in this article, we shall pass over this chapter, with the exception of the following short passage.

"Although, generally speaking, before commencing the saline and sulphureous waters, it is advisable, in the greater number of cases, that the bowels should be regulated by some suitable medicine, this preparatory step is more particularly called for previous to a course of the chalybeate water. The astringent effect which the iron spring possesses, is apt, now and then, to produce a much less aperient action on the bowels, than the composition of the spring would lead to infer; and hence, for the same reason, it is necessary to continue some aperient medicine during the whole course of the water."—*Loudon*, p. 65.

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* "The salts, however, dissolved in water, are an excellent substitute for the springs. They are prepared at Mr. Smith's establishment, in Bath-street, and sold by him, and at the different Chemists in Leamington; and in London, at Messrs. Barclay and Son's, Fleet-market."

Leamington, as we before observed, is well supplied with bathing establishments of every description. It is a quiet—we had almost said a very dull place: but the vicinity, especially Kenilworth, Warwick Castle, &c. afford agreeable and interesting excursions. Leamington is an aristocratic watering-place, and, as such, will be preferred by that class of society, to Cheltenham, which, like Brighton, has become strongly tinctured with democracy.

"The importance of Leamington, as a watering-place, may be inferred from the extreme rapidity with which it has risen from obscurity to be a town of such considerable magnitude. This has, with some degree of justice, been attributed to the number, variety, and abundance of its mineral streams. Having eleven different wells, and uniting, in a single spot, waters similar to those of Harrogate, Tunbridge and Cheltenham, the sick are neither necessitated to wander about from place to place, seeking that which is most applicable to the complaint under which they labour, nor obliged to add foreign ingredients to increase their powers."—*Loudon*, p. 86.

Considering, however, that Dr. Loudon's favourite spring, the Strong Chalybeate, is shut up, and that, at Harrogate there are two, and at Cheltenham, one very good chalybeate, the exclusive advantages of Leamington cannot, without partiality, be maintained.

5. CHELTENHAM.

Who is not as familiar with the name of CHELTENHAM, as with that of the street in which he resides? What man, woman, or child, in Great Britain or in any of her colonies, has not heard of No. 4? What planter in the Antilles, who had ever chewed a sugar-cane, flogged a nigger, or swilled sangaree, has not repaired to "No. 4," in the hope of washing out the bile from his liver, and all record of Wilberforce from his memory? What NABOB of the East, who had eaten curry till his skin was as yellow as a star pagoda, did not ply "No. 4," on his return, in order to expel the mulligatawney from his complexion? What alderman who had gobbled green fat and calipee till his abdomen outmeasured a huge turtle, does not "clear out" at "No. 4," preparatory to the re-shipment of a new cargo? In fine, every individual, old or young, in this country or our dependencies, who keeps an eye to No. ONE, must keep the other eye on "No. 4," at Cheltenham,—if he mean to live long, feed well, and sleep soundly. And yet "No. 4" is nearly *no more!* A new NAIAD has opened a shop within a few inches of the old Hygeian Goddess, and entitles herself "No. 4. A." running away with three-fourths of the custom from her ancient neighbour. This new aspirant will be noticed presently.

Cheltenham, in our opinion, is one of the cleanest, most cheerful, and handsome provincial towns in England, or in Europe. It is sheltered and nearly surrounded by moderate hills, cultivated to their summits, and presenting a most picturesque panorama from the cupola of the Pittville Pump-room. It has been bruited that the reputation of the waters has declined. The rapid increase of the population from 23 thousand, in 1831—to 35 thousand in 1841, would seem to negative this report.

"The principal thoroughfare from the High-street is the Colonnade, which leads to one of the most beautiful promenades in Europe, at the extremity of which is the Queen's Hotel, a majestic building, and, as an establisement, stands without a rival. On this spot formerly stood the Sherborne Spa. Around this neighbourhood are some of the most lovely and delightful rides and walks in the kingdom. These embowering shades and pendant woods, form an enchanting retreat during the summer months, and are the general resort of all the rank, beauty, and fashion of Cheltenham, where

'From Courts and Senates each may find repose.'

The Promenade Terrace is much admired for its elegant and classic design. An opening from the Terrace conducts the Visitor to the entrance of the Old Wells, as well as to the Bay's Hill Estate. The stately avenue of Elms, planted in 1739, and now in the pride of luxuriant foliage, are here seen to the greatest advantage. They are justly the theme of admiration; and contribute, in no small degree, to the beauty of the landscape. It is in visiting such enchanting scenes as these that

'The smiling God is seen; while water, earth,
And air attest his bounty.'"

The streets, terraces, crescents, villas, and parks are now rapidly stretching away towards the Cotsdown Hills, which they will probably one day climb, in pursuit of cool air.

The Springs of Cheltenham are numerous; but they are easily traced—not indeed to their sources, but to their exits in the various pump-rooms. Many acres of the rising grounds about Lansdowne Crescent are *mined*, as it were, and the waters conveyed for more than a mile by subterranean conduits to the Montpellier Rotunda and the Laboratory of Mr. Thompson, for the preparation of Cheltenham Salts. Into some of these medicinal mines we descended, and saw the genuine waters gushing into the wells at a depth of from 40 to 80 or 100 feet, and thence gliding away to their respective destinations, for the benefit of mankind. How different the results of these hygeian mines from those which disgorge their gold and silver for the corruption of the human race!

"Effodiuntur opes irritamenta malorum."

But we must glance at the Spas themselves.

THE OLD WELL.

This ancient spa, (at which our good old GEORGE the THIRD quaffed,) together with its magnificent avenue of elms, is sorely eclipsed by its more modern neighbour, the MONTPELLIER, and nearly left alone in all its glory! The contents of a pint are as follows:—

Muriate of soda	58.20 grs.
Muriate of lime	6.21
Muriate of magnesia	2.54
Sulphate of soda	14.56
Total . . .	81.51

There is a very small proportion of carbonate of iron in this well. At this spa there is also a

"STRONG CHALYBEATE SALINE."

Muriate of soda	17.60
Muriate of lime	3.
Muriate of magnesia	3.30
Sulphate of soda	43.20
Carbonate of iron a large quantity.	
Total	67.10

The Old "No. 4" of the Old Well contains;—

Muriate of soda	47.
Muriate of lime	4.
Muriate of magnesia	7.½
Sulphate of soda.	59.
Total	117.½

This also contains some iron. It is evidently a most valuable water, however eclipsed by its new neighbour.

The Old Wells also present sulphuretted salines, which need not be noticed.

SALINE CHALYBEATE.—(No. 1. Montpellier.)

Sulphate of soda	14.7
Sulphate of lime	1.3
Sulphate of magnesia	4.0
Muriate of soda	27.0
Bicarb. of soda	1.1
Oxide of iron	⅓ of a grain.
Carbonic acid gas 2½ inches.	
Total	48.4

This is evidently an excellent saline chalybeate, since the aperient salts and muriate of soda must check the bad effects of iron, in inflammatory habits.

SULPHURETTED SALINE.—(No. 2, at the Montpellier.)

Gazeous Contents, 1.6 cubic inch of sulphuretted hydrogen.

SALINE CONTENTS.

Muriate of soda	35.3
Sulphate of soda	28.4
Sulphate of magnesia	7.2
Sulphate of lime	3.1
Oxide of iron	0.4
Hydriod. of soda	0.15
Total, ,	74.17

The next saline (No. 3.) at the Montpellier is merely a weaker one than No. 2.

No. 4, or PURE SALINE.—(Montpellier.)

This was long the lion of the spas at Cheltenham—and is still a very valuable water.

COMPOSITION.

One and four-tenths of a cubic inch of carbonic acid.

Muriate of soda	52.4
Sulphate of magnesia	14.2
Sulphate of soda	17.2
Bicarb. soda	1.2
Sulphate of lime	2.7
Carbonate of lime and of magnesia	1.1
A trace of hydriodata and soda.	
Total	88

No. 4, A., or the reigning favourite at Montpellier Wells.
"IODURETTED SALINE."

COMPOSITION.

Carbonic acid 1.6 cub. inch, A trace of sulphuretted hydrogen.

Muriate of soda	51.4
Muriate of lime	8.3
Muriate of magnesia	7.3
Sulphate of soda	14.0
Sulphate of magnesia	17.1
Sulphate of lime	2.1
Bicarb. soda	2.4
Carb. of lime and carbonate of magnesia.	3.2
Hydriodate of soda.	0.25
Total	106.25

It will be seen that this water contains the same quantity of aperient salts (both sulphates and muriates) as No. 4, besides a larger quantity of lime, and 7½ grains of muriate of magnesia. The iodine, too, is in much larger quantity than in No. 4. It is not without reason, therefore, that it is more generally taken than any of the waters here.

There are two other pumps here in the Rotunda, No. 5 and No. 6—the former called "THE CHALYBEATED SALINE," and contains 47 grains of sulphate of magnesia—ten of muriate of magnesia—and only nine of muriate of soda—with nearly half a grain of oxide of iron, with some iodine and bromine.

The other (No. 6) shows a large proportion of muriate of soda (50 grs.) with 4½ grs. of muriate of magnesia, and only twelve grains of sulphate of soda. It is called the "MURIATED SALINE."

There is also a "CHALYBEATE" at Thompson's Laboratory, containing one-third of a grain of oxide of iron in the pint, with various salines, and about half a cubic inch of sulphuretted hydrogen gas, which keeps the iron at the *minimum* of oxidation.

CAMBRAY WELLS.

Not far from the Montpellier Gardens, at the southern end of Rodney Terrace, are two wells, called the "CAMBRAY WELLS;" one the "ORIGINAL CHALYBEATE," containing nearly a grain of carbonate of iron in the pint, with about seven grains of saline matters—two grains of muriate of lime and magnesia, three of sulphate and muriate of soda, one of lime, and one of magnesia. This may, therefore, be considered as nearly a pure chalybeate, and shows three cubic inches of carbonic acid gas in the pint.

"THE PURE SALINE"—(CAMBRAY.)

Contains 77 grains of saline in the pint, viz.—51 muriate of soda.
8½ muriate of lime.
17 sulph. sodæ.
A mere trace of iron.

PITTVILLE WATERS.

Descending to the High Street from the Old Wells, Montpellier, and Cambray, we ascend on the opposite side of the town, full half a mile, to one of the most magnificent pump-rooms in Europe, with gardens, ponds, shrubberies, and a lofty dome, from which a splendid panorama bursts on the eye, bounded by the beautiful Cottswold Hills. Here are three springs—a strong and weak saline, together with a sulphuretted saline. The latter has not been yet analyzed. Both of the former, however, are very weak. The stronger contains only 46 grains of saline matters in the pint, viz. sulphate of soda 17 grains, muriate of soda 27 grains, with hardly anything else.

The weak saline shows 7 grains of sulphuric acid, 26 chlorine, 17 sodium, 3 soda, 1 gr. lime.

Thus then we see that there is a great variety of medicinal waters at this place, enough indeed to answer almost every indication. We have heard that the waters are found to vary occasionally, in some of their sensible qualities, especially the taste; but we have no proof, or even presumption, that their chemical constituents undergo any material variation in consequence of time or season. Much less do we give any credence to the absurd and scandalous tale about cart-loads of Epsom salts being weekly imported for the supply of the springs, or rather of the laboratory for making the Cheltenham salts.

The last time we visited Cheltenham (Aug. 1841) we observed that a general impression prevailed there that Dr. Granville had depreciated the waters. We must candidly say, that a perusal of his work has not led us to any such conclusion. He avers, indeed, that the waters of Cheltenham will not cure all diseases; and that they are not proper in the acute or active stage of any disease. These are truths which will apply to any or all of the most celebrated waters of Germany, or any other country. Dr. Granville admits (a most remarkable admission on his part) that MEDICINES are not only useful, but absolutely necessary, in those diseases for the cure of which Cheltenham is renowned; and that in the good old days of his early practice, patients were only sent to Cheltenham when the

were convalescent, and when the London or provincial doctor found that he could do no more.

"I would illustrate my position by a single example taken from what, in our days, may be considered as an almost every-day occurrence in medical practice. There was a time, say twenty years ago, when a patient labouring under extensive disease of the liver, commonly so called, and no matter how produced, whether by a residence in a tropical climate, or from sedentary life and anxiety of mind, or through frequent imprudence committed at the table, would first undergo that suitable treatment under a skilful physician, which, sooner or later, and *alone*, does successfully overcome this class of disorders. But inasmuch as even the skilful physician and the most appropriate treatment could not do all in such cases; and as after having cancelled the positive disease by remedies, the medical attendant often found it difficult, if not impossible, to restore by the ordinary means the constitution to its normal state—a thing only to be obtained through the agency of such chemical combinations as were found ready at hand in the Cheltenham waters; our patient was generally recommended to go thither, where he seldom failed to complete his recovery in the short space of four or six weeks. Vast numbers of cases of this description have come to my knowledge.

Of late years, however, as I before remarked, a patient under similar circumstances would not think it necessary to submit his case to any preliminary treatment, but would at once proceed to Cheltenham. Your sickly, jaundiced, and deeply-damaged orientals, on their return from their baneful presidencies to England, will frequently act in this way, and when once at Cheltenham, will instantly begin their own cure by means of the water, and the water principally,—in the expected good effects of which, however, they are disappointed. How could it be otherwise? Failure indeed might have been expected; for the Cheltenham water *per se* is incapable of curing any disorders (except indeed some slight cases of indigestion) though admirably calculated to assist in completing the cure of almost every disease and functional malady of the organs of digestion.

Viewed in this light, Cheltenham offers an immense resource to the medical practitioner; and thus recommended to invalids and convalescents, Cheltenham may be certain of a constant and vast concourse of visitors, who will there find what they require—health—and will be pleased and praise Cheltenham accordingly." 302.

We believe, however, that very few invalids from tropical or other climates, proceed to Cheltenham, without consulting some physician before they go there, and without acting under the direction of a medical man on the spot. We presume that the physicians of Cheltenham are quite capable of prescribing remedies as well as waters.

The PLUMBO-PUMPO-PHOBIA we have already disposed of in the Harrogate part of this article. The disease haunts Dr. Granville wherever he goes. The sight of six cocks in the Montpellier Rotunda nearly sets him into hysterics, and when he gets his breath, he exclaims—

"Now all this display calls largely upon the faith and credulity of the bibbers. It is not thus that matters are managed in Germany; for there the *good, honest,* and *unsophisticated people of the country* could not be persuaded to swallow *a single drop of any water which should be presented to them in so mysterious a manner, or the source of which they could not plainly see.* Here, on the contrary, I firmly believe, that were the enumeration of the taps or spouts to be carried out to three figures of numbers, there would be found people enough to drink, and feel convinced at the same time that they drank different waters." 292.

Indeed! What! has Dr. Granville, in all his perigrinations, never visited the FONTAINE ELYSÉE at Aix-la-Chapelle, where the waters are delivered by two cocks to thousands and thousands annually of eager bibbers (" good, honest, and unsophisticated people,") who never did, and never will see the " source" of the medicinal springs? These waters run a considerable way from their sources, through the dreaded and denunciated " pipes," which Dr. Granville kindly overlooks, although they are in Germany! And in what way could the valuable waters of Cheltenham be raised from a depth of 50 to 100 feet, but by pumps? In what way could they be transported from Lansdown Road to the Laboratory, or to the Rotunda, bnt by pipes? Would Dr. Granville leave them to lie on their beds of Lias to the end of time, rather than employ a pipe or a pump to bring them within the reach of suffering mortals? And what does he dread? A nonentity! Dr. Christison has shown that lead cannot exist in saline waters. We suspect that we shall hear no more of the " PLUMBO-PUMPO-PHOBIA."

" Upon mature and deliberate reflection, I hold that at the Montpellier Rotunda, the invalid who is sent to Cheltenham to drink its peculiar mineral water, will find it in perfection by using the old No. 4; or even 5, where a small quantity of iron added to the saline, is not incompatible with his complaint." 295.

It is the poor " CAMBRAY CHALYBEATE " that has found least favour in the Doctor's eyes, because it is not as pregnant with carbonic acid gas as the Boklet or Bruckenau; and yet it contains twice as much of that sparkling gas as any other spa at Cheltenham.

" But to render it a paramount source of general patronage and important results, like the chalybeates in Germany, it should, like them, be sparkling with a profusion of carbonic acid gas, instead of lying, as it does, flat and stale at its source, with its heavy mineral." 288.

Steel, however, though held in solution by a very moderate amount of carbonic acid, often proves extremely useful. Nay, where it is not in solution at all—for instance the carbonate—its medicinal efficacy is proved by the experience of mankind in all countries. The Cambray Chalybeate is not to be despised because it contains only three cubic inches of carbonic acid gas in the pint.

The Cheltenham waters may be ranged or classed under three heads—the Saline—the Sulphureous—and the Chalybeate. They all contain saline matters, and all exhibit carbonic acid gas. It must have been observed, on looking over the analyses, that muriate of soda is at the head of the saline ingredients—and next to that are the sulphates of soda and magnesia. Though they present several other substances, it is to the above that they owe their virtues. The purest salines are Nos. 1 and 4, at the Old Well—No. 4, at the Montpellier—and the waters of Pittville and Cambray.

These, therefore, are the waters most used in all ordinary cases of disordered stomach, liver, or bowels—in dyspepsia, nephritic complaints, dropsical affections, uterine irregularities—and in some cases of gout and rheumatism. These saline waters open all the secretions, as well as the bowels, and thus prove eminently *alterative*. Where it is judged prude-

to combine with these waters a light tonic the No. 4, A., of the Montpellier answers the purpose well.

Of the sulphureous waters we shall not say much, as they certainly appeared to us much less malodorous than those of Harrogate, or even of Leamington. The Cheltenham physicians, however, maintain that these springs, especially No. 5, at the Old Well, and No. 2, at the Montpellier, are little if at all inferior to the waters of Harrogate.

"Many persons have been inclined to doubt their efficacy, from the circumstance of their saline ingredients depriving them of the strong sulphureous taste and smell possessed by the waters of Harrogate; but this is a mistake which experience will correct, and to all those afflicted by cutaneous diseases, scrofula in its various forms, ulcers, rheumatism, gout, hæmorrhoids, worms, &c., and many female complaints, we can confidently recommend these waters as a very valuable remedy, when taken as directed under the several heads of these diseases; in many cases they will effect a complete cure, and in almost all they will afford sensible relief. They do not act particularly upon the stomach or bowels, or at least it is in a very gentle manner; but they act very sensibly on the skin, kidneys, and lungs." 22.

The above is stated by an anonymous physician, but we are privately informed that the writer was a man of talent and integrity, who had much local knowledge of the waters.

The same authority avers that the chalybeates, especially that of the Cambray Spa, are not inferior in efficacy, in those cases where they are indicated, to any chalybeates in England—"not even to those of Tunbridge."

"In female complaints especially they are of infinite service in restoring suspended or perverted function, and in generally strengthening the system. In most of the forms of scrofula they are highly valuable; and, in many instances, in convalescence from diseases which have left great debility, a course of these waters is extremely useful; and in many cases they are indicated after one or two courses of the saline or sulphureous waters; but in proportion as the chalybeate waters are beneficial in those cases to which they are adapted, so are they prejudicial if improperly and incautiously taken, and may produce the very worst effects. They never should be had recourse to but under medical advice, as it is impossible for any other than a medical man to judge in what cases and constitutions they may be useful or prejudicial. As a general remark it may be observed that they seldom or ever agree with persons of active circulation, florid complexion, and sanguine temperament; or persons subject to cough, spitting of blood, determination of blood to the head, &c.; but are well adapted to cold and phlegmatic habits, where there is languid circulation, torpor of the system, &c., whenever they produce headache, flushings of the countenance, giddiness, &c., their use should immediately be discontinued. The strongest chalybeates at Cheltenham are those of the Cambray Spa, and at the Montpellier Laboratory; and are therefore best adapted for cases in which the use of steel medicines are clearly indicated, and female complaints attended by great debility, scrofula, those cases of dyspepsia in which tonics are indicated, many nervous affections, convalescence from diseases, &c. The saline chalybeate, such as No. 1, at the Montpellier Spa, and No. 3, at the Old Wells, will be found very serviceable in those cases where it is necessary to conjoin gentle purgatives with steel medicines." 23.

The Cheltenham waters may be taken at any period of the year, when

the weather is mild; but when taken as means of prevention, from the middle of March till the end of October is the best season. But, in every case, medical advice should be taken on the spot, before the course is commenced.

"In all cases where they are had recourse to, it is absolutely necessary to premise one or two doses of *medicine* of some kind, for if the stomach and bowels are loaded at the time of their commencement, they will not act, and will be sure to disagree; the choice of the medicine will depend upon the circumstances of the case, and the constitution of the patient; in general a calomel pill of three, four, or five grains at bedtime, with a black draught the following morning, or simply, pills of calomel and colocynth at bedtime will suffice.

The *saline* and *sulphureous* waters should be always taken in the morning, fasting, and in such quantities or with such adjuncts as will ensure a proper effect upon the bowels; for when this does not take place, a sense of fulness distention and swelling will be felt, with flushings of the face, drowsiness, headache, &c. The quantity usually taken is from one to two pints. It is generally requisite to add to the first glass. sometimes to both or all, a small quantity of what is termed *solution*, (which is the water concentrated by evaporation;) this is done at the discretion of the Pumper, and frequently in cases of great torpor of the alimentary canal even this is not found sufficient, and it becomes requisite to take a pill every or every alternate night on going to bed. These waters should be taken *early* in the morning; formerly, when Cheltenham was less a place of fashionable resort than it is at present, the waters used to be drank as early as six, or at the latest seven o'clock in the morning; *now* it is no uncommon thing to see the lazy votary of fashion and the pale-faced victim of the last night's ball crawl to the well to take their *first* glass at nine or even half-past, but this is not doing justice to themselves or to the waters; the most proper hours for drinking them are undoubtedly from seven to nine in the morning. Two or three half-pint glasses, or sometimes ten or twelve ounce glasses, according to circumstances, are taken, allowing an interval of about twenty minutes between each glass; and a full hour should be allowed to intervene between the *last* and breakfast; the whole of which time may be very agreeably spent in the walk, and in listening to the excellent music which is to be heard at most of the Spas. Some persons find that they cannot walk immediately after taking the waters without a feeling of giddiness; those persons should sit down for a quarter of an hour afterwards, during which the tendency would subside."—*Anonymous.*

The chalybeates here, as at other spas, may be taken at all times of the day—beginning with a morning dose, and repeating it afterwards, once or twice in the day. Simplicity in food, early hours, abstinence from fruit and vegetables, and regular exercise, are no mean auxiliaries to the waters. The internal use of all the mineral waters at Cheltenham is beneficially attended by a warm bath once or twice a week. There is excellent accommodation, in this respect, at Mr. Thompson's Establishment adjoining the Laboratory, in Bath Street. The following quotation contains judicious advice.

"Before proceeding to speak of the *special diseases* in which the Cheltenham waters have been found beneficial, it may be advisable to say a few words on a state of the system very commonly prevailing, and which, although not amounting to actual disease, inevitably, if neglected, lays the foundation of serious organic and functional affections, and is the fruitful source of acute suffering and premature decay of the vital powers; but which, if attended to in time, is very

easily overcome, and in which two or three courses of the Cheltenham waters very seldom fail to effect a cure. We allude to a state of *mal-aise*, which usually commences with, or has its foundation in, *constipation of the bowels*; the bowels act perhaps daily, or once in two days, but not sufficiently; after the evacuations have for some time been defective in quantity, the *quality* of those likewise becomes altered: they are too dark or too light in colour, or they are mixed with mucus, frequently in small white threads, resembling worms; after this has continued for some time, listlessness and languor is felt, especially in a morning; the appetite fails; headaches are occasionally, in some cases frequently, troublesome, and the patient feels universally out of order, without being able to say that he has anything in particular the matter with him. If this state is neglected, it will lay the foundation of obstinate dyspepsia, of disease of the liver, or of the mucous membrane of the stomach and bowels, according to the constitution of the individual; but if judiciously treated in its commencement, and whilst the disorder is simply one of *function*, it will very readily yield to remedies.

In these cases the patient should, in the first instance, take at bedtime, a three, four, or five grain calomel pill, according to the age and sex of the individual, followed the next morning by a black draught of salts and senna; the morning after this a course of the waters may be commenced. In these cases we should give the preference to the *pure saline*, taking from sixteen to twenty ounces every morning, with or without *solution*, according to its effects on the bowels: two or three evacuations should be produced every day; and in order to insure the evacuation of the solid as well as the watery contents of the bowels, it is very desirable every *second* night during the *first*, and perhaps the *second* course of the water, to take a pill composed of five grains of the compound extract of colocynth, with three, four, or five of the blue pill, and where there are any reasons why the blue pill is inadmissible, the compound extract of colocynth may be taken alone, or combined with three or four grains of castile soap. The number of courses of the water required to restore the functions to their natural state will depend upon the time the disorder has lasted: when it has been of short continuance—one course of three weeks, or two of a fortnight each, may suffice; but frequently a third course may be necessary, and even a repetition of them the succeeding autumn or spring may be advisable; and in some persons the tendency to functional disorder of the stomach and bowels is so inveterate, that an annual course of the waters, nay, in some cases one or two courses each spring and autumn is absolutely necessary to keep the system in any thing like order. Nor let the invalid in whose case this may be necessary complain, if he possesses the means of visiting this favoured spot; rather should he rejoice that nature has provided such a pleasant and health-restoring beverage, which not only preserves him in a state of comfort, and allows him the enjoyment of the blessings of this life, but also does away with the necessity for drenching his stomach with drastic purgatives, tonic bitters, carminatives, and the endless list of medicines to which a dyspeptic invalid has recourse for a temporary alleviation of his sufferings, and in lieu of them imposes upon him the pleasure of an annual visit or two to one of the most delightful watering places in the world, where every thing is combined that can heal the body, soothe the mind, delight the eye, and amend the heart." 34.

The aperient qualities of the Cheltenham waters—especially the pure saline—render them admissible in cases of plethora, or even local congestion, where the generality of other spas containing exciting ingredients, would be dangerous.

"There is another state of the system, not amounting to actual disease, in which a spring or autumnal course, annually, of the Cheltenham waters is strikingly useful in preserving the balance of health, and warding off serious disorders;

we mean that state of *plethora* to which many persons of stout make and full habit are liable. This affection is of *two* kinds: viz. *absolute* plethora, or general fulness of blood, which occurs commonly in persons of robust habits, florid complexion, full pulse, good appetite, and rather constipated habit of bowels. These cases are not only completely relieved by one or two full courses of the waters, but as there is in these persons a tendency to make blood too rapidly, and in too large a quantity, local congestions, or determinations of blood are prevented; and the absolute quantity of the mass of blood is diminished, by the saline qualities of the water acting copiously upon the exhalants of the bowels and carrying off the watery parts of the blood. When this habit of body prevails, an annual visit to Cheltenham is of essential importance, which, when joined to a moderate and rather spare diet, with regular exercise, will suffice to prevent the necessity of those frequent abstractions of blood, to which such invalids are but too apt to have recourse, and which, however neeessary they sometimes may be, have an inevitable tendency to re-produce the necessity for their repetition. There is another state of *plethora* which has been termed *relative*, implying not that the *quantity* of the blood is absolutely too great, but that it is so relatively to the powers of the constitution for appropriating or disposing of it. In this case the deviation from health is very gradual, and at first excites but little attention; there is languor and debility, a chilly state of the surface of the body, cold feet, and very languid circulation; the internal and large blood-vessels having thus an unusual load thrown npon them, local congestion takes place; producing, according to the part affected, head-ache, difficulty of breathing, indigestion, constipation, pains in the stomach or bowels, and alternation of flushed and pale countenance, sometimes ulcers of the leg, &c. Indeed, if this state continues long some *local ailment* is sure to arise. Persons not acquainted with the nature of this complaint, are apt to consider it as one of *pure debility*, consequently they take tonic medicines, full diet of beef-steaks and porter, port wine, &c., thus adding fuel to the disorder; whereas it must be treated, sometimes even by general or local bleeding, but always by a course of purgatives, for if in this state there is not costiveness of the bowels, there is *invariably* a very foul state of the secretions; those from the bowels are dark coloured and offensive, and the urine is high-coloured and loaded. In these cases the Cheltenham saline water, aided by the colocynth and blue-pills, are sure to effect a cure—but they require great perseverance, two courses spring and autumn, for several successive seasons being frequently necessary before the system can be brought to its natural state. We are acquainted with several instances of both these forms of plethora, where the subjects of them were in the habit of visiting Cheltenham at first twice, and now continue it regularly *once* a-year, and by this means keep themselves in perfect health; when previously to being made acquainted with the virtues of these waters in such cases, they had been in the habit of losing large quantities of blood every year, besides taking quantities of drugs of various kinds, but the necessity for which is now by the regular use of these waters done away with." 36.

It is for the Proteian forms of indigestion and biliary derangements, however, that the waters of Cheltenham are chiefly had recourse to. Cheltenham, in fact, forms a kind of valetudinarium for the tropical invalids, of both hemispheres, as well as for a numerous class of invalids who have never left the English shores, but whose digestive organs become impaired by sedentary habits, anxiety of mind, and the wear and tear of professional, commercial, and political pursuits. It is here, too, that we see hypochondriasis on a tolerably large scale. Speaking of the hepatic complaints which accumulate here from hot climates, the physician already quoted observes:—

"In these cases, especially, when they are the consequence of residence in a warm climate, a steady use of the Cheltenham waters for a considerable time, (at least two or three courses of three weeks each) and aided by the occasional remedies, will seldom fail to overcome the disorder. As usual it will be requisite to commence by one or two doses of purgative medicine. During the first course it will be desirable to take one of the colocynth and blue pills every night, and sixteen or twenty ounces of the pure saline water every morning; taking care, by the addition of solution if necessary, to ensure three or four evacuations from the bowels daily; if there is progressive amendment, the pill may be taken every *second* night only during the second course, and the water may with great propriety and advantage be changed for the No. 4 A. of the Montpellier Spa. During the third course the pills may be omitted, and the last-mentioned water taken in such quantity as to produce at least two evacuations daily." —*Anonymous.*

But our limits are already transgressed, and we cannot accompany Dr. Granville to Bath and several other places, which we have often personally explored. If we have quoted but little from Dr. Granville, he must recollect that he has emphatically stated his object to be almost entirely for popular instruction. To the general reader, especially to those who are about to visit the English spas and watering-places, the volumes of our lively and amusing author will be most welcome and instructive, as they are, in fact, excellent hand-books for the mineral waters. But to the profession they will be much less valuable, in consequence of the details and descriptions which render them attractive to the non-professional traveller.

ON THE REMOTE CAUSE OF EPIDEMIC DISEASES. By *John Parkin*, Honorary and Corresponding Member of various learned Societies, &c. Octavo, pp. 198. Hatchard, 1841.

WITH laudable zeal, a philosophic mind, and unwearied industry, Mr. Parkin prosecuted the investigation of the late epidemic cholera, both in this country and in Spain; and has now, after a considerable interval, given us the fruits of his meditations and reflections. We agree with the author that it is not in the moment of alarm, in the midst of an epidemic, that we can calmly trace its causes and ascertain its laws. But when is our profession free from an *emeute*, or some topic of contention that absorbs all its faculties for the day? We very much doubt whether one person in one hundred, of the medical practitioners of this country, could tell in what year the cholera invaded our shores! That terrible epidemic is as completely obliterated from their thoughts—we had almost said their *memory*—as though it had never existed! The reforms of colleges, the remuneration of workhouse doctors, the intrusion of chemists, and such-like topics, engross all attention, and we very much fear that Mr. Parkin will not be able to interest one medical man out of every thousand, so as to induce him to travel with him through the wilds of "remote causes," and epidemic influences. The profession is too much busied with the

work of ascertaining *effects*, to trouble themselves with the exploration of *causes*. Few of them have any relish for that kind of felicity which was promised by the Roman Bard to those who searched out and discovered the occult causes of things.

"Felix qui potuit RERUM cognoscere CAUSAS."

Now if Mr. Parkin, has, or even thinks he has, made a discovery of hidden causes not hitherto unveiled, he already has his reward, according to the above precept of the poet, and may laugh at the neglect or scepticism of his contemporaries.

Our author believes, and we quite agree with him, that "the precise specific cause of the disease (cholera) remains entirely unknown, in spite of all the hypothetical opinions which have been put forth on the subject." It is however, something to know and confess our ignorance. He who has optical illusions is sure to take a false route, while the blind man uses every precaution, and proceeds in the most circumspect manner at every step.

"Entertaining a theory at variance with and different from those hitherto broached, and believing that it explains, not only all the facts bearing on this important subject, but also, the various anomalies which belong to all other and acknowledged theories, I am induced to come forward on the present occasion, in order to make known my opinions, and to advance a few arguments in support of their truth." 8.

It is not very easy to get at the author's theory. One thing is certain, viz. that he does not ascribe the origin of cholera or any other epidemic to contagion.

"For the facts which have been presented to our notice, during the prevalence of the epidemic cholera, have set every conclusion drawn from the doctrine of contagion altogether at defiance; while they have, at the same time, shown that the premises upon which this doctrine is founded are false and untenable." 11.

It is quite unnecessary to go over the grounds by which the non-contagious character of cholera has been so often and so steadily maintained in this Journal. Several of the arguments and proofs, however, are cleverly brought forward in the present essay, and some of them set in a new light. One short extract from this long chain of argument, is all we can spare room for.

"It is no less a fact, that the epidemic commenced in the centre of France, and before any of the towns on the frontiers had been attacked: while it was impossible to refer the origin of the disease in Paris to the least communication with an infected town, or with infected individuals. Its simultaneous appearance, in fact, among numbers of individuals at the same moment, and in that class of persons who had the least intercourse with strangers, plainly showed that the doctrine of contagion could never account for the origin of the disease in that capital. 'We unhesitatingly avow our conviction,' remarks the editor of the *Lancet*—a work, be it observed, that had previously advocated the doctrine of contagion, 'that it would be worse than frivolous to discuss the proposition, that some other influence than contagion was concerned—and mainly concerned in the excitement of the disease in the French capital; and has since contributed powerfully and fatally to its propagation.'" 16.

If contagion then was not the cause of cholera, was it a poison, sui

generis, rising from the earth, and inhaled into the lungs? Mr. Parkin observes, and justly, "that many of the phenomena presented during the march of epidemic diseases, are also common to the effects produced by the invisible but well-known agent, MALARIA." But if the two poisons be the same, the old doctrine, he remarks, of malaria or marsh poison being the product of decaying animal and vegetable matters, must be given up; since the cholera, for example, prevailed in the most barren and sandy tracts, as well as in the most luxurious and fertile localities.

The author's theory begins to dawn at page 34 of the Essay, in the following passage.

"If unable to account for the production of the poison above the surface, our only resource is, to glance into the interior of the globe, with the view of ascertaining whether there is any process going on there capable of giving origin to a poisonous matter. Now there is a process in constant operation in the bowels of the earth, and which gives rise, at particular periods, to certain effects cognizable to our senses; to this process the term *volcanic action* has been applied. But then it so happens, that this process is a silent and invisible one; for we are unable to penetrate into the interior of the globe, and view the operations of nature in this her hidden laboratory. It is impossible, therefore, to ascertain its existence, except by the occurrence on the surface of some of those phenomena, known to be produced by volcanic action. The principal and the most striking of the effects, directly produced by the agency of this cause, are, as is well and commonly known, the volcano and the earthquake." 35.

But, as volcanoes and earthquakes do not always, or even generally accompany epidemics, we must extend the range of their cause (subterranean fires) far beyond the two phenomena when openly apparent to our senses. The writer of the article Geology, in the Encyclopædia Metropolitana, makes the following remark:

"If we limit our view of volcanic action to the phenomena attendant on the eruption of a volcano, and the shock of the earthquake, we exclude from our definition a series of effects evidently allied to the former, and perhaps, equally illustrative of its real nature. How different, for example, are the eruptions of Vesuvius and Ætna, or any other mountain which emits a stream of lava, or melted matter, from the emanations of gas and vapour, which arise in situations where no vent exists, or from the increased temperature of certain springs in the neighbourhood of active and extinct volcanoes, or the evolution of carbonic acid, and other gases, from the water of these as well as all other thermal springs. Yet the connection of all these phenomena with the action, which gives rise to the eruption of the volcano and the discharge of melted matter from the crater, is as well established now, as is the relation of subterranean concussions or earthquakes with the volcanic process." 37.

Mr. Parkin, however, abandons this argument, as incapable of direct application to the cause of epidemics, whilst he tries to explain the connection of subterranean fire with this same cause by other ratiocination.

"Now, if we generalize the phenomena attendant on the march of epidemics, we shall find that they are so regular and uniform, as to deserve to be set down as laws of the disease. More than this, if we compare these laws with those attendant on volcanic action, we shall find that they are the same, or similar, as will be apparent by the recital of a few of the principal phenomena observed during the operation of this process on the crust of the globe.

THE FIRST AND MOST SINGULAR LAW WHICH MAY BE NOTICED, IS

THAT WHICH CAUSES THE EFFECTS OF VOLCANIC ACTION TO BE FELT OR WITNESSED ALONG PARTICULAR LINES OF THE EARTH'S SURFACE.

To be convinced of this, we have only to cast our eyes over any one of the principal volcanic regions, when we shall remark, that a series of vents extends along, at no great distance from each other, either in a straight or curvilinear direction; and this too over considerable portions of the earth's surface. As an example of the first, we may refer to the Andes, where, from Chili to the north of Mexico, there is a line of volcanos, *so uninterrupted*, that it is rare to find an intervening degree of latitude, in which there is not an active vent; and it seems probable that they will hereafter be found to extend from Cape Horn to California, or even, perhaps, to New Madrid, in the United States—a *distance as great as the pole from the equator.** Although extending to this distance in one continuous and uninterrupted line, the volcanic action, as well as the effects resulting from it, is confined to very narrow boundaries on either side. 'In regard to the eastern limits of this region,' observes the same writer, 'they lie deep beneath the waves of the Pacific, and must continue unknown to us.' On the west they do not appear to be prolonged to a great distance, for there seems to be no indications of volcanic disturbance in Guinea, Brazil, and Buenos Ayres.

'A remarkable example of the other variation or curvilinear direction, is to be found in the Pacific Ocean. From the Phillippine Islands, a range of volcanic vents proceeds to nearly 10° latitude, ranges westward along this parallel for about 25° of longitude, and then turns up north-west diagonally through about 125° of latitude. This line, which, when represented on maps, resembles an enormous fish-hook, passes from the Phillippines, by the north-east point of Celebes, Gelolo, the Volcanic Isles between New Guinea and Timor, Floris, Sumbawa, Java, and Sumatra to Barren Island.'

The paroxysmal convulsions, and other signs of internal action along these particular lines, and the fact, that two vents are seldom in a state of activity at the same time, while the discharge of matter from one outlet, invariably lessens, or arrests, that from another, sufficiently attest their continuity beneath the surface. Thus the volcanos in different parts of Iceland, as well as those in the Phlygrœan Fields, are observed, as Lyell states, to be in activity by turns,—one *vent often serving for a time as a safety valve to the rest.* Another proof, also, of the connection of certain volcanic vents, may be adduced from the fact that when several cones are thrown up in one eruption, which is sometimes the case, they invariably take a linear direction.

The principal volcanic region in the old world extends from east to west for the distance of about 1000 miles from the Caspian Sea to the Azores. From south to north it reaches from about the 35th to the 45th degree of latitude. Its western limits, says Lyell, are the ocean, but it is impossible to ascertain how far it may be prolonged in that direction; neither can we assign with precision its extreme eastern boundaries, since the country beyond the Caspian, and sea of Arat, is scarcely known.

An attentive consideration of the phenomena which have been observed in this part of the world, from time to time, leads distinctly to the conclusion, that the volcanic action extends along the centre of this region in a line from east to west; for while the effects of earthquakes, which have occurred at a given point, have been felt hundreds of miles from the centre of concussion, in *linear or western direction*, scarcely any effect has been observed in places situated but a comparatively short distance to the north or south of this particular line. This phenomenon was particularly noted in the earthquake, at Lisbon; for the concussion was severely felt by ships at sea, hundreds of miles to the westward of the spot where it first commenced; while places but slightly removed from this line to

* Lyell's Geology.

the north and south experienced no shock, but only slight agitation in the waters of the sea, rivers, ponds, etc. It would also be an easy task to show, if space were afforded for the purpose, that the concussions which have been felt in this region, and even at the farthest extremities of the volcanic boundaries have an intimate connection with the volcanos of Ætna and Vesuvius, inasmuch as for some time previous to an eruption of these mountains, earthquakes have generally been experienced along some portion of this particular line, and which have invariably ceased, as soon as the melted matter has found its way to the surface." 43.

Mr. Parkin remarks that when a shock has been experienced at a given spot, it is speedily propagated to another and distant point—"*always along some particular and well-defined line.*"

In the epidemic diseases under consideration a characteristic feature is progression along particular lines, whilst their effects extend but a short distance on the sides of these lines, like the volcanic shocks themselves. The line of cholera presented this peculiarity in a remarkable degree—attacking the inhabitants of one bank of a river, and sparing the other. It was the same with the "BLACK DEATH" of the 14th century. But we are unable to accompany our author through all the analogies between volcanic and epidemic phenomena. They evince great research after facts, and considerable ingenuity in harnessing these facts to the car of his theory. Thus, coincident with the "black death," a series of terrestrial commotions almost unexampled, occurred. An earthquake took place near Kingsai (where the disease first broke out) by which whole mountains were overturned, and a lake of more than a hundred leagues in circumference was formed. These concussions recurred for several years. The disease spread in a westernly direction across the continent of Asia to the shores of the Black Sea—to Constantinople—the cities of Europe—and ultimately to England—storms, floods, and earthquakes attending the route of this dreadful malady.

In respect to cholera, the Bengal Report states that, at first, the disease raged simultaneously in various and remote quarters:

"But soon after reaching the junction of the Jumma and the Ganges, the epidemic began to show one of the most striking peculiarities, which characterized its march. It no longer pushed its influence, without distinction or apparent choice, in all directions and throughout every tract coming in its way; but began to affect *particular lines*, and to fix itself in particular divisions of the country, wholly restricting itself for the time to the course of those lines and divisions." 128.

Although it branched off occasionally to right and left, still the grand march was westerly till it reached England—crossed the Atlantic, and visited America!

Earthquakes are very rare in India; but about the time of the breaking out of the cholera there were several shocks felt in Bengal, and for some years afterwards. Thus at Bhooj, in 1819, there were 15,000 houses reduced to ashes in two minutes. But we can go no farther. Mr. Parkin thinks he has proved, or rendered it probable, that "various gases are not only generated in subterranean reservoirs, but are also extricated in considerable quantities into the surrounding atmosphere, and that to the direct action of some one or more of these products on the human frame we may possibly refer the production of epidemic diseases." Granting this—which

however, we think is not very clearly proved—we are still in ignorance of the nature of this gas—or of the cause of its producing cholera at one time—fever at another —influenza at a third—and death, whether "black" or "blue," at all times. That the cause of cholera and other epidemic diseases is an emanation from the earth, and merely diffused in the air, we firmly believe, and have always maintained in this Journal. But that it is essentially connected with volcanic action, we are as yet far from being convinced, notwithstanding the ingenuity and industry brought to bear on the investigation by our author. A perusal of the work, however, will well repay the time expended, in consequence of the very curious information collected into a small volume from various and scattered sources.

I. ESSAIS SUR LA METHODE SOUS-CUTANEE. Par le Docteur *Jules Guerin*. Paris, 1841, pp. 126.

Essays upon the Subcutaneous Mode of Operating.

II. MEMOIRE SUR L'ETIOLOGIE GENERALE DES DEVIATIONS LATERALES DE L'EPINE. Par le Docteur *Jules Guerin*, 1840.

Essay upon the Etiology of Lateral Curvature of the Spine.

III. RECHERCHES SUR LES LUXATIONS CONGENITALES. Par le Docteur *Jules Guerin*. Paris, 1841.

Researches upon Congenital Dislocations.

IV. MEMOIRE SUR L'INTERVENTION DE LA PRESSION ATMOSPHERIQUE DANS LE MECHANISME DES EXHALATIONS SEREUSES. Par le Docteur *Jules Guerin*. 1840.

A Memoir upon the Influence of Atmospheric Pressure in the Production of the Serous Exhalations.

V. MEMOIRE SUR UN CAS DE LUXATION TRAUMATIQUE DE LA SECONDE VERTEBRÆ CERVICALE, DATANT DE SEPT MOIS. Par le Docteur *Jules Guerin*. Paris, 1840.

Relation of a Case of Dislocation of the Second Cervical Vertebra of seven months' duration, successfully treated.

THESE pamphlets have appeared during the last two years in the pages of the French Medical Gazette, and have been noticed from time to time in the Periscope of this Journal;* but their republication in a separate form, and the importance of the subjects to which they relate, demand at our hands a rather more detailed view of their contents than we have hitherto given. Three of the memoirs form part of a dissertation upon the defor-

* See Nos. 62, 64, 65, 66, 67.

mities of the osseous structure, which M. Guerin is now republishing, and to a portion of which we referred in our number for July last. The author is a bold and able surgeon, as apt with the pen in recording as with the bistoury in performing his various operations, and, certainly, if the results he declares he has obtained be confirmed by the experience of other practitioners, much of our surgical practice is destined to undergo considerable modification and extension.

1. THE SUBCUTANEOUS MODE OF OPERATING.

"It is," says Mr. Lawrence in his lectures, "the boast of modern surgery to have diminished the number of operations. I speak within limits when I assert that there are not so many operations performed now, by one half or two thirds, as when I first began to study the profession. This important difference to which I allude has arisen from the improved knowledge of the nature and treatment of disease." It would be well if some of those who have been seized with the prevalent mania for operating, would bear this observation in mind. It is indeed unquestionable, that many deformities have of late been discovered to depend upon perverted muscular action, and to be capable of relief by the division of the muscles or their tendons implicated, and that such division is not attended with the ill-consequences heretofore believed to result from meddling with these structures. But, when we observe the number of cases of clubfoot, strabismus, stammering, distortions of the spine, &c. which have latterly been submitted to the knife, we are tempted to believe that too little discrimination has been employed in the selection of cases likely to be benefitted, and, that a great deal of enthusiasm, and some charlatanism may have obscured the due consideration of the principles upon which operations should alone be undertaken. Upon what principles surgeons are enabled to boast their two or three hundred cures in the brief period of a year or two, we are at a loss to comprehend, at least if permanency is to be considered as one of the elements of a cure. If our predecessors in surgery performed more of the acknowledged operations than our improved knowledge allows us to undertake, they were at least far more careful in their institution of new ones; and before they recommended these for general adoption, examined all the circumstances connected with them with scrupulous care and exemplary patience. There can be no doubt, as we have already observed, that many of the deformities alluded to are relievable by the operations now in vogue; but, there can be as little doubt, that many which have been submitted to them never should have been so; and, that a most unwarrantable precipitancy in undertaking new cases, prior to a patient observance of the results of the first ones, has been committed.

However, if M. Guerin's observations upon "Subcutaneous Surgery" be correct, the multiplying of these operations is comparatively of no consequence, as the most formidable of them may be undertaken without any danger, and almost without inconvenience. He prefaces this republication of his views with an introductory chapter, in which he establishes his claims of being the first to prove that wounds, to which the access of the is prevented, healed at once without any inflammatory or suppurative

process. It is true the harmlessness with which the subcutaneous section of the tendo-Achilles may be performed has been long known, but, even the most recent operators, as Dupuytren and Stromeyer, merely practised this as an empirical operation, believing that, by avoiding exposure, the suppuration or exfoliation of the tendon was prevented, but never referring this to any general theory or explanation. So, too, Dieffenbach attributed the success to the mildness of the inflammatory action, and never for an instant supposed that no inflammation whatever was present. M. Guerin first divided tendons in 1836, but did not permit the bistoury to pierce the skin a second time, viz. at the point where the incision terminated. Finding the one puncture sufficient, he was struck with the ease with which the wounds united, and the little trouble they caused; but so little did he himself at that time suspect the principle involved, that he, from dread of the operation, deferred for two years dividing the spinal muscles for those deformities dependent upon their contraction. The division of tendons by some other surgeons was not attended by the immediate union which followed his own operations, and serious consequences sometimes resulted. Upon reflection he discovered that these ill effects arose from the apertures of the skin being too large, and too directly over the incision of the tendon, and that the instruments employed were far too broad. Experiments upon animals, and subsequent experience, led him to draw the conclusion, that the absence of ill effects after division of tendinous structures, did not arise, as supposed, from the slight re-active power of the wounds of tendon, but from the exclusion of the air, an exclusion that produces what he terms "immediate organization," which is not only distinguished from but impeded by the presence of inflammatory action.

"What do my experiments upon animals and my operations upon man show? The former, made and repeated many times, comprehending subcutaneous incisions of all dimensions, from 1 to 30 centimetres,* practised upon the limbs or trunk, single or multiplied, involving by turn tendon, muscles, nerve, vessels of small calibre, and even the bones themselves: these attended sometimes with effusions of blood, and performed under every possible combination, exhibited, at all times, an utter absence of suppurative inflammation, and the presence of 'immediate organization.' Sometimes, the incisions extended from the nape of the neck to the sacrum, traversing the muscles, vessels and nerves of the spine, the animal remaining as calm as if suffering from a mere scratch. Sometimes the wounds were far deeper and more severe, but never were they followed by suppuration. . . . . Is there a surgeon who would have dared, at the same sitting, to have performed upon one individual the subcutaneous section of more than forty muscles and tendons? That have I dared to do without hesitation or bravado, resting upon the truth of the principle laid down; and do not the boldness and novelty of my attempt, and the surprise and incredulity it excited, present us with some idea of the originality and certainty of this principle? . . . . . I may demand of the incredulous, to cite one solitary fact of suppuration ever having followed any of my subcutaneous operations; yet have these now amounted to more than *two thousand*, and I have performed publicly more than 500 since my election to the hospital for children."

He reasonably objects to the want of success of those, who do not adhere rigorously to his method, being laid at his door. The work itself

* A centimetre is inch 0.394.

consists of two Essays; the first relating to subcutaneous wounds in general, and the second to those of the joints in particular. An Appendix contains a few cases recently treated by some other surgeons.

1. *On Subcutaneous Wounds.*

A. *Experimental Part.*—In this the author relates the various experiments he made upon dogs prior to trying the operations upon the human subject, and the results of these latter. A detail is unnecessary; suffice it to say, some of the most important muscles of the body were among those divided, and that the incisions frequently extended from 8 to 10 centimetres in length, and from 4 to 5, or on some occasions even to 10 or 12, centimetres in depth. A considerable effusion of blood beneath the skin and between the lips of the wound at once occurred, but a small piece of adhesive plaster, and the employment of slight pressure, were the only means had recourse to. No local inflammation or general fever ever resulted. The patients after the third day were enabled to arise, and when supported to walk, and to employ the various mechanical means necessary to complete the removal of the deformity.

B. *The Theory of the Immediate Organization of Subcutaneous Wounds.* What theory the author may have in his mind we know not; but, all he expresses is the simple fact, that the exclusion of the air permits, and its admission prevents wounds undergoing the process of *immediate organization*, as he terms it, though, in what this mode of healing differs from that of union by the first intention, we are at a loss to perceive.

C. *General Consequences and Applications.*—M. Guerin observes, that all wounds, however they may differ in their early stages, according as they present the adhesive or suppurative forms of inflammation, resemble each other in their latter stage, that of cicatrization. Cicatrization takes place speedily in proportion as the air is excluded, and even in suppurating wounds this process only occurs after such exclusion; in these this is effected by means of the membrane, first described by Bichat as existing upon suppurating wounds, and afterwards denominated the puogenic membrane—the formation of pus not being, however, a special secretion, requiring any special organ, but a mere modification of the blood, transuding through this membrane into contact with the air.

The practical applications of the doctrines brought forward in this essay are indeed important. In the treatment of wounds, the importance of bringing all the parts into accurate contact, and of effectually closing their orifices, is at once seen. Wounds of the great cavities of the body, for example, should always be treated upon the principle of obtaining immediate union. Experience alone will demonstrate all the various cases in which the subcutaneous mode of operation may be employed, but many may even now be indicated. Thus, a vast number of operations upon tendons are performed with success, which formerly never could have been attempted; congestive abscesses forming in the groin, thigh, or lumbar region, have been opened in several individuals suffering from tubercular affections; the sphincter has been thus successfully divided for fissure of the anus; various serous and sanguineous subcutaneous effusions have

been dispersed, and an exostosis has been removed from the tibia. In fact the original expectations of M. Guerin, as contained in the following passage, seem to be in progress of realization.

"We may expect that the liberation of certain inflammatory engorgements, the division or removal of certain tumors, the opening of some descriptions of cysts and abscesses, will, through the subcutaneous mode, be effected without consecutive inflammatory accidents. Lastly, as the most important application, I will allude to the subcutaneous liberation of crural and inguinal herniæ, and their radical cure by the adhesive occlusion of their orifices."

Other surgeons have now borne testimony to the efficacy and safety of subcutaneous surgery in some novel applications. MM. Barthélemy and Malgaigne have employed it with success in the incision of synovial cysts developed around the joints. Lisfranc and Pinel Grandchamp have removed considerable ganglia; M. Lisfranc met with neither success or accidents, M. Pinel Grandchamp with a marked success. M. Ricord has successfully applied the subcutaneous method to the treatment of a varicocele by ligature of the veins. M. Dufresse-Chassaigne has treated a case of loose cartilages of the knee. M. Jobert has attempted the radical cure of hydrocele by means of subcutaneous incision of the tunica vaginalis.

2. *Subcutaneous Wounds of the Articulations.*

This essay detailing the application of the above doctrines to operations about the joints, need not occupy us long, it having been already noticed in this Journal.* It is sufficient to say, that, guided by some successful experiments upon dogs, M. Guerin eventually obtained the following results.

"It will be seen from a memoir which I addressed to the Academy during its last sitting, that I have already frequently performed the subcutaneous section of the ligaments of the knee and ankle joints, to remedy various deformities arising from their undue contraction. In many of these operations, and especially in the division of the tibio, and perineo-tarsal, and the tarsal ligaments, I have been obliged to extend my incisions within the interior of the articular cavities. These operations, repeated many times, have never given rise to any inflammatory accident."

By the subcutaneous method, serous, sanguineous, or purulent collections may be evacuated from the articulations; and the author anticipates that, when our diagnosis of the exact state of the joints in anchyloses is more exact, many of these cases will be found amenable to the same proceedings. Another application has even been sometimes successfully put into force, viz. the section of the ligaments and capsules in irreducible and congenital dislocations.

"In fact, I have been enabled by this method to cure a congenital dislocation of the sternal extremity of the clavicle in a girl 11 years of age. This deformity had been submitted in vain to all kinds of treatment. The projection of the sternal extremity of the clavicle was very considerable, and the ligamentous connexions were in a very relaxed state. I made, under the skin, incisions around the articulation, so as to include the ligaments and capsule, and circumscribed by numerous and deep scarifications the field of movement of the inner extremity

* No. 66, p. 519, Oct. 1840.

of the clavicle. After keeping the joint for ten days perfectly at rest, I found the extremity of the clavicle imprisoned, as it were, within a rim of recent formation, having also contracted adhesions with surrounding parts, calculated to prevent a recurrence of the displacement. I thought it would make matters still more certain if I repeated the operation. After a month's rest and precautions, the girl was enabled to execute with her arm the various movements, which had heretofore always been accompanied by a considerable projection forwards of the extremity of the clavicle."

II. THE ETIOLOGY OF LATERAL DISTORTION OF THE SPINE.

"This Essay contains an application, to the study of lateral distortion of the spine, of the doctrines I have already delivered respecting the etiology of club-foot.* In this point of view, the curvature of the vertebral column may be considered as the club-foot of the back, that is to say, the contracted state of the muscles (retraction) produce in the spine, as in the foot, anormal changes of direction and form, modified indeed by the particular condition of the parts in question, and by the different directions in which this contraction takes effect. Thus, it is merely the same fact, which we have broken up into sections, but whose various parts will be found to unite and blend themselves into a perfect unity. Club-foot, spinal curvature, wryneck, congenital dislocations, and many monstrosities, are but the partial and varied effects of the operation of one cause, just as the different varieties of congenital club-foot, equinus, varus, and valgus, offer on a less scale evidence of a single and similar cause operating differently upon the muscles of the leg and foot."

After alluding to a former communication to the Academy, in which he detailed the successful result of his sections of the spinal muscles in lateral distortion, the author applies himself in the present memoir to the demonstration—that the muscles of the spine, influenced by certain states of the nervous centres, take on involuntary contraction, and, remaining permanently shortened, by the traction they exert upon the portions of the osseous system to which they are attached, produce the deformity in question. He proposes certain queries, the answers to which form the illustration of his subject.

1st QUESTION.—*Do there exist examples of spinal distortion, accompanied by, and evidently caused by sensible alterations in the condition of the nervous centres?*

The answer is in the affirmative; for (1st), in the fœtal state, and especially in the case of monsters, distortions of the spine, accompanied by various deformities of the joints, are found to co-exist with more or less extensive changes in the nervous system. In the author's work on deformities of the bones, to which the prize of the Academy was adjudged, he has collected a series of evident changes in the brain and spinal-marrow, from their complete destruction down to the minutest anormal appearance. Deformities of the skeleton were found to exist in proportion to the gravity of these changes of the nervous centres; thus, partial or entire loss of the brain, or spinal-marrow, were accompanied by the most complete distortions of the limbs and excessive curvature of the spine. These defor-

* Medico-Chirurgical Review, No. LXV., p. 226.

mities are not only co-existent with, but are subordinate to the lesions of the nervous system, as may be seen by examining the manner in which they are produced; for, the muscles are found to be shortened, hard, and tense in the direction of the various deformities, forming the cords to the bowing of the different angles and curvatures. Anormal flexions of the limbs, luxations, and deformities of the joints, then, are found in the fœtal state (in animals as well as man), and always in due correspondence with the extent of the nervous lesions.

But (2) these observations need not be confined to the fœtal state; for the production of spinal deviations by muscular contraction, originating in nervous affection, is capable of ample demonstration in after-life. M. Guerin has observed at all periods, from the first few days after birth to adult age, curvature of the spine following cerebral or cerebro-spinal affections, and accompanied as in the fœtus by numerous deformities of the articulations: while, in proportion as the cerebral affection has been slight, so has been the accompanying deformity. These facts have been observed too frequently in young children to be other than rigorously exact, and the same observation might be extended through all the years of childhood to adult age. He possesses many cases of the deviation of the spine having supervened in girls 15 or 16 years of age, after various convulsive affections of the brain and spinal-marrow.

2d Question.—*In the absence of sensible alterations in the nervous centres, are there any certain means of recognizing that a curvature of the spine is produced by active muscular retraction, originating in an affection of the nervous system?*

This question may be also answered in the affirmative. The positive proof in these cases is of course not always to be obtained, as the majority of them are yet living; but the question is whether material exists to enable us to form our diagnosis independently of an autopsy: this may be considered in two points of view.

1. The spinal distortion may be accompanied by other symptoms of the nervous affection, which has given origin to it; and indeed it is rare for the nervous affection to confine its manifestation to the exciting muscular or spasmodic contraction, or for such contraction to be limited to the spinal muscles. And, thus, besides the changes in the physiognomy and gait of persons suffering under cerebral or spinal disease, we usually find undue contraction of other muscles, as wryneck, distortion of the feet or hands, permanent flexion of the extremities, &c. In such cases we should not detach the spinal deformity and explain its production by a separate agency, but consider it as a part of the *tout ensemble* of the signs of the affections of the nervous centres. M. Guerin says that such cases are constantly occurring to him, but, that it is in the hospitals devoted to affections of the nervous system, as the Bicêtre and Salpétrière, that we see hemiplegia, paralysis, and every form of nervous affection, accompanied by every variety and every combination of muscular contraction, producing deviation of the spine among other distortions.

2. But in other cases no such coincident manifestations exist, and such cases present some difficulty; here the nervous affection is confined in its influence to one or two points of the circumference, or may exist in

and be circumscribed within the nerves themselves, which supply the spinal muscles. Affections of the spine may, in fact, occur after very local and slight affections of the nervous system, but in determining that they do so arise, M. Guerin seems to us completely to fail, he being obliged to throw himself upon remote analogies, or, in other words, merely describes the actual condition of the parts. He says that all the characters of these spinal curvatures resemble those found in cases avowedly produced by nervous lesion, and that this identity of effect must arise from an identity of cause. He lays great stress upon the fact, that the muscles are in a state of active retraction, very different from that of mere passive or consecutive retraction; the one exerting a powerful force upon the points of attachment, and approximating them in various directions; the other being merely secondary to such approximation, they possess no tension, and merely fill without limiting the space: in the former, by reason of the resistance they meet with, they become of a fibrous consistence, while in the latter they degenerate into a fatty condition: in the one they are firm, bundled well together, and resisting under the skin—sometimes being as hard as fibro-cartilage; in the other, they present slight resistance and an anormal softness. The active retraction may be limited to a single muscle, or even to a portion of the same, and thus it and paralysis with atrophy may occupy different portions of the same muscle. Thus portions of the trapezius have been found contracted and fibrous by the side of other paralysed, wasted, and membranous portions, and both in connexion with muscles in their normal condition. So too the longissimus dorsi has been seen actively retracted, while the sacro-lumbalis by its side has been so merely passively. These varieties of texture and form of the parts often throw great light upon the nature of the case. The appearances now alluded to are however not always very evident, and may be masked by others.

3d QUESTION.—*What are the different varieties of this active muscular retraction, and within what limits are we to consider it as a cause or active element in the production of these deformities?*

Persons who have paid much attention to the effect the nervous affections, which manifest themselves by convulsive movements, exert upon the development of the organization, will be in a condition to answer this. It is well known that, after the various diseases of infancy, in which a convulsive affection has been even slightly evident, a mere passing event, how frequently some muscle of the neck or limbs remains contracted for a shorter or longer period. Such effects, which are observed in muscles whose action is so visible as those of the neck or arms, are also to be found existing in the spinal muscles, as indeed might have been inferred, from the great number and intimate connexion with the spinal-marrow of the nerves which supply them. If we do not observe the spinal distortions develope themselves as soon as the wryneck, flexion of the elbow, or clubfoot, it is not that they depend upon a different cause, but that the spine offers a greater resistance, and that its muscles, more closely confined in their sheaths, do not project so prominently. Here, as in clubfoot, the retracted muscles becomes struck with a species of paralysis, which prevents their continuing to acquire development in proportion to the parts of the skeleton to which they are attached. They remain proportionally shorter, and distortion is the necessary result.

But to these cases, which may be called the results of an internal malady, compromising the brain or spinal-marrow, are to be added others which result from external causes, applied directly to the muscles themselves, or rather to the nervous elements which animate them. It has long been well known that wounds, sores, or abscesses of the calf produce a shortening of the muscles which compose it, and that this shortening gives rise to a permanent extention of the foot upon the leg. So, too, persons accustomed to treat affections of the spine are well aware, that deviations of the column often follow wounds or blows of its muscles. In these cases (and where curvature results from various diseases, as rheumatism, &c.), although the muscular lesion is the only one evident, yet we are justified in referring the contraction of the muscle to an affection of the nerve which supplies it; for it is from the nerves alone the muscles derive their motility, and the best understood nervous maladies modify this motility, from convulsive contraction to actual paralysis. Even when the distortion may arise from other accidental causes, muscular contraction much influences its eventual progress.

4th QUESTION.—*Are there any certain means of distinguishing distortion produced by active muscular retraction, from distortion resulting from other causes?*

M. Guerin states that, in his work upon deformities, he has proved that there may be passive muscular distortion of the spine, active muscular distortion, (the most frequent variety,) and osseous distortion. Each of these causes manifests itself by the peculiar nature of the effects it produces, by attention to which the diagnosis may be pronounced. But distortions of the spine, however originating, present certain phenomena in common, arising from the endeavours of the muscular system to re-establish the equilibrium of the body, when in the erect posture. General muscular debility, an imperfect antagonism of corresponding muscles, paralysis of certain of the muscles, a primary inequality of the two halves of the skeleton, rickets or scrofula, any of these causes may operate in determinating the spine from its vertical position. All these causes are attended, like active muscular retraction, with their peculiar signs. Thus, muscular and ligamentous debility impresses its marks upon all the muscles, ligaments, and articulations, as it does upon the spinal column; and the distortions arising from rickets or scrofula are but some among the various local visible effects of these diseases. For a detail of the specific characters of each variety the author refers to his former work. But there are certain characters produced by degrees of active muscular retraction which are common to all cases of distortion, although the degree in which this retraction mingles with the various other signs is not always easy to determine. When once, by the operation of any of the causes to which allusion has been made, the spine commences departing from the perpendicular, a species of struggle ensues between this pathological cause and the action of the muscles of the spine endeavouring to maintain the centre of gravity duly poised, whence result the *alternate* curvatures always to be observed. These muscles exert then a retractive power analogous to primitive muscular retraction, and, although the origin of such retraction is different, its effect in shortening the muscles, and acting upon

skeleton becomes the same. To this form Guerin gives the name of *active secondary* retraction, thus distinguishing it on the one hand from the *primary active* retraction, and, on the other, from the merely *passive* retraction, which adapts the form of the muscles to the spaces they have to occupy.

Such is the theory of our author, justificatory of the numerous operations he has of late performed for the removal of distortions of the spine. Doubtless some cases may be so explained, but numerous objections arise, had we space to allude to them, to its adoption as a general explanation. So, too, do we feel as yet very sceptical as to the incision of the affected muscles proving a *permanent* cure in any considerable number of cases. It will require a few years longer yet to determine the true value of this, and some other operations of recent introduction.

III. CONGENITAL DISLOCATIONS.

Congenital dislocations form another example of the effects produced by what the author terms a primary active muscular retraction. He divides the memoir into two parts; the one termed the scientific or theoretical portion, comprehending the etiology, topography, and mechanism of the production of these affections; the other, or practical portion, embracing the consideration of all the pathological circumstances, influencing the permanent reduction of the dislocations, and of the means whereby this is to be effected.

1. *Theoretical Portion.*

A.—*Congenital Dislocations, like Club-foot, Wryneck, and Spinal Distortion, are produced by active muscular retraction, operating in different modes and degrees.*

The same line of demonstration employed in reference to spinal distortion, is here followed out. In monsters, dislocations are found to exist in common with other effects of perverted muscular action, and in proportion to the extent of lesions of the nervous system. Among the preparations exhibited to the Academy, was one of an acephalous fœtus, in which the head was completely drawn back, the spine much curved, and all the principal joints dislocated. This he considers a truly pathological proceeding, and not owing to (as according to the popular theory) an arrest of development, with *consecutive* retraction of the muscles. The lesions of the brain, found in monsters, do not arise from absence of development, for the parts awanting have existed, and are in a pathological process of removal; the muscular contraction is also very different from that which is merely passive and consecutive, for the muscles are not merely shortened between their points of insertion,—they are so often to a third or fourth of their normal length,—but they are also in such a state of undue tension, that the portions of the osseous system to which they are attached necessarily become distorted or broken. Their texture, too, which has become hard and fibrous, is very different from the fatty degeneration of consecutively shortened muscles.

To show how little influence pressure, position, or other accidental circumstances have in producing these dislocations, we may observe that the same luxations often exist, and in the same direction, upon the opposite sides of the body; that they are frequently found to surpass in extent dislocations produced suddenly, and that their direction is determined by the direction of the retracted muscles, which is often anormal.

B.—*All the Deformities comprised in the category of Congenital Luxations, Sub-luxations, and Pseudo-luxations, are, as the varieties of other articular deformities, produced by active muscular retraction or paralytic contraction, differently distributed, combined, and graduated in the muscles subservient to the articulations.*

Congenital dislocations may be complete or incomplete,—luxations and subluxations, or they may be simulated by other deformities,—pseudo-dislocations.

It was an error formerly to attribute these varieties to different causes: they all arise from muscular contraction, but from different distributions, degrees, and combinations of this retraction, the luxation being complete or not, accordingly as the muscular retraction is powerful or affects many muscles. These two degrees of dislocation exist at different periods of fœtal life. Complete dislocation is found at the earliest period, when the articular cavities are insufficiently developed, the adaptation of their surfaces incomplete, and their attachments lax; but, in the progress of fœtal life, as the cavities become deepened, and their surrounding capsules firmer, sub-luxation and pseudo-luxation predominate. Pseudo-luxations are properly not luxations at all, although they bear some outward resemblance to them, and consist of an anormal direction imparted to the bone by muscular retraction, without actually displacing it from the joint.

Congenital luxations may arise *directly* from primary retraction, and spasmodic contraction of the muscles, or they may arise *indirectly* from the paralysis of certain muscles, whereby their antagonists require an undue power.

C.—*Congenital Dislocations may occur successively or simultaneously in every joint of the body, from the lower jaw to those of the bones of the feet.*

Under this section the author presents us with a list of the different dislocations he has met with. The length precludes our attempting any analysis, and it will suffice to say there is hardly a joint in which he has not found several varieties of luxation to occur.

M. Guerin does not deny that congenital dislocation may occasionally occur from other causes besides muscular contraction: thus, disease of the joints, occurring during fœtal life, sometimes terminate in displacements, but the characters of these are quite different from those of the true congenital dislocation. He adduces an example of dislocation of the femur. The surrounding muscles were even scarcely passively shortened, while the articular cavity, in part destroyed, was found filled with a fibro-cartilaginous structure.

D.—*The progress and completion of Congenital Luxations are subjected to the influence of the same accessary causes as Club-foot, Spinal Distortion, &c., viz. an arrest in the development of the retracted Muscles, the physiological contraction of the Muscles, and the vertical action of the weight of the Body.*

It is rare for a luxation to become at once complete, although there exist examples in which energetic contraction of the whole or chief portion of the muscles of the articulation have produced it; this happens usually at the earliest period of intra-uterine life, and implies a very severe lesion of the nervous system. Under what influences then do sub-luxations become complete ones, and do pseudo-luxations simulate true luxations which is usually not the case until some period of extra-uterine life? There are three auxiliary or complementary causes of these changes, viz.

1. *The arrest in the development of the muscles.*—This is an early effect of retraction, whereby the disproportion between the muscles, and the portion of the skeleton to which they are affixed increases, and the dislocation, at first partial, becomes complete: this occurs, however, much more easily in some joints than in others. 2. *The physiological or natural contraction of the muscles* continuing to act in the direction in which the original displacement has occurred, contributes to increase it. The points of insertion of the muscles being now brought into different relative positions, their lever power or mechanical effect frequently becomes quite changed. Thus, when the femur is luxated upwards and outwards, the adductors, semi-tendinosus, and semi-membranosus assist in the displacement vertically, in consequence of the absence of a point of resistance to the superior extremity of the femur, and laterally by an increase of their angles of insertion. 3. *The vertical action of the weight of the body* tends incessantly to augment the displacements of the lower extremities. Thus, in the dislocation of the hip, which is usually double, the weight of the body tends to force the pelvis down between the two femoral heads. By reason of these accessary circumstances the progress of the dislocation is gradual but continuous, and, so numerous may be the shades of difference occurring from the operation of various circumstances, that it is impossible to pronounce when a partial dislocation may become a complete one: but a luxation of the femur, which may be cited as an example of the others, is rarely completed before the third or fourth year—a fact which has deceived many surgeons, leading them to believe the luxation was not congenital, but arising from circumstances operating after birth.

E.—*Congenital Luxations present (besides their proper and various mechanical characteristics) specific, general and local characteristics, which are common to them all, and are but a repetition of those of other Congenital Deformities.*

The specific characters are—1, *local*, viz. the retracted state of the muscles, producing a hard, prominent, tense bundle, limiting the movements of the parts, and changed more or less into a fibrous consistence: 2, *general*, to which allusion has been made in speaking of spinal distortions, as traces of an affection of the nervous centres, shown by the physiognomy or the contracted state of other muscles, &c.

F.—*The Therapeutical Indications are derived from the consideration of the Etiology; and especially consist in the subcutaneous section of the retracted Muscles, and in the employment of appropriate mechanical means for the effectual and permanent reduction of these Luxations.*

The section of the muscles of the thigh may be made with the same safety and the same success that have attended the operations upon the spinal muscles and other parts. But, as the incisions are both deep and considerable, the subcutaneous plan must be rigorously followed out, if suppuration is to be avoided, and immediate organization achieved. In nine cases M. Guerin has performed the operation for reduction of these luxations, and with an immediate removal of the principal obstacles to the reduction. Many cases require much subsequent adaptation of various mechanical means, and some are incurable. The consideration of the reductibility of these affections belongs to the second part of the essay.

2. *The Practical Portion.*

CHAP. 1.—*The Anatomical Conditions which facilitate, render difficult, or prevent the permanent reduction of the Dislocation.*

These conditions are to be found—1, in the state of the muscles and other soft parts surrounding the luxated part;—2, in the state of the articular surfaces themselves, and in that of the neighbouring parts of the skeleton; 3, such as the formation of new articular cavities and consecutive deformities of the bones.

A.—*Changes in the Muscles and other Soft Parts.*

A. *The Muscles.*—These become *shortened* not only by the active retraction which produces the dislocation, but also secondarily and passively by reason of the approximation of their points of insertion. In complete luxation the greater part of the muscles which influence the articulation are primarily contracted; but, in sub-luxation, or pseudo-luxation, the number of muscles influenced by either forms of retraction varies considerably—a solitary bundle may be submitted to primary retraction, and a great number affected secondarily, or *vice versa*. The *direction* of the muscles often becomes changed by the alteration of the position of the osseous levers. The *texture* suffers three modifications: the muscles may become "fibrous," owing to the unnatural and permanent traction to which they are subjected; those of them which have remained in a state of inertia and relaxation, owing to their points of insertion having been preternaturally approached, undergo a fatty degeneration; while, others again, which are brought into increased exertion, to supply the place of those which are thrown by the dislocation into a state of desuetude, become hypertrophied.

The effects of the muscles upon the reductibility are—1. Those which are primarily contracted, or have passed into the fibrous state, constitute insurmountable obstacles to the reduction. Their mechanical extension can give them only for the moment a length sufficient to re-establish the relations of the articular surfaces. Their fibrous consistence, and the arrest of their development, limit the movements of the replaced joint, and

become causes of its re-displacement. The subcutaneous section of these muscles is as indispensably necessary, as it is in the treatment of club-foot, &c. 2. Muscles which have been passively and consecutively retracted can in certain cases be sufficiently extended by mechanical means. But if this shortening is considerable, and the traction employed too forcible and too long continued, they become fibrous in texture, and serious obstacles to the reduction, and in like manner with the others require division.

3. The fatty transformation, and hypertrophied states of the muscles do not exert any influence upon the reductibility of the dislocations. They may interfere with the movements of the joints after the reduction, but, by the re-establishment of the various relations of the parts, these muscles eventually re-acquire their normal texture and movements.

B. *The Arteries* become flexuous, so as to accommodate themselves to the deviations of the joints from their normal states: they also become diminished in calibre from $\frac{1}{3}$ to $\frac{1}{2}$. It will thus be seen why mischief will not accrue to the arteries by attempts at reduction, and why the limb, even when the reduction has been accomplished, does not at once receive its proportionate development.

C. *The Veins* do not become so tortuous as do the arteries, while their calibre becomes increased in the same proportion as that of the arteries becomes diminished.

D. *The Nerves* are shortened, and stretched in a straighter line than natural between the two extremities of their course, thus opposing some obstacle to, and causing excessive pain during the reduction.

E. *The Cellular Tissue* is generally increased in quantity, and much loaded with fat, which occupies the hollow spaces left under the skin by the displacement of the parts, and the intermuscular spaces. It displaces too the fleshy fibres of the relaxed muscles, so that these almost entirely disappear, or a few of a yellow colour are found amidst a mass of adipose substance.

F. *The Skin* easily accommodates itself by its elasticity, to the changed forms of the parts, and, where this is not the case, fatty matter fills up the intervals.

G. *The Ligaments and Capsules.*—Like the muscles, these are altered in dimension, direction, and structure. They may be contracted or elongated, and in some dislocations their shortening arises from active retraction. In the dislocation of the astragalus outwards, and in the extreme adduction of the foot, the internal lateral ligament of the tibio-tarsal articulation, and the astragalo-scaphoidean ligament, are often found contracted to one-third of their length, hard, and stretched like cords. The ligaments also become shortened by passive retraction after the displacement, and to such an extent as to prevent the reduction by their mere extension. Those ligaments, whose points of attachment have been dis-
ced by the displacement, become lengthened, and thinned, adapting

themselves to the parts to which they are attached. Under relaxation and disease they become fatty and wasted, less rapidly however, and in a less degree than do the muscles; and where muscles by reason of excessive traction become fibrous, these parts become osseus. Mere immobility without stretching will sometimes produce ossification. In reference to the reductibility of the dislocations we may observe—1. That ligaments, like muscles, may, by reason of primary or consecutive retraction, oppose invincible obstacles to the reduction, and by reason of their altered state may contribute to the reproduction of the displacement, and therefore require the subcutaneous incision. Moreover the capsules, especially of the hip-joint, have a concentric retraction which opposes reduction.—2. The elongation of the ligaments and capsules, subsequent to their distention, opposes an obstacle to the permanence of the reduction.

It must be borne in mind that the changes in the soft parts, to which allusion has been made, are developed very gradually, and this remark becomes of importance in reference to a change which especially affects the capsule of the hip-joint. At the examination after death of some old subjects the communication within the capsule between the luxated head and the cavity has been found to be obliterated, and it has been hence inferred that reduction in these cases is impracticable. But observation teaches us, that early in life this state of things does not exist, and, even when it has commenced, it proceeds by very slow steps; so that it is only towards 12 or 14, that any serious obstacle may be apprehended upon this ground. The communication has been even found open in subjects of 25, 28, and 30 years of age,

B. *Changes in the Articular Extremities.*

A. *Changes in the Heads of the Bones.*—Taking the head of a femur as an example, its surface often becomes very irregular, its volume is diminished, as also its sphericity, the neck is shortened: its cartilage after undergoing change of structure disappears. A luxated head, by pressure against a part, may become flattened, or, by pressure against the border of the cavity, receive from it an impression or even a groove. The head of the femur is less obliquely placed upon the neck than naturally, while the neck itself is inserted too perpendicularly into the axis of the bone.

B. *Changes in the Cavities.*—These are especially observed in the cotyloid cavities. They have a tendency to diminish in size, and to take on somewhat of the form they possessed in the early stages of intra-uterine development, *i. e.* to become triangular and superficial. An examination of about forty cases, has proved to the author that the diminution of the size of the heads, and the narrowing of the articular cavities are proportionate. So much are these changes the result of the absence of juxta-position, that when an artificial cavity is formed for the reception of a luxated head, the latter continues in its normal proportions, or even may augment these. The cavities have a tendency to become obliterated in proportion to their size and the duration of the deformity. The obliteration seems to arise from two distinct sources, viz. 1. A rising up of the bottom of the cavity, which seems to swell out from the absence of the pressure of the articular head; and—2. From the production of a cellular and fatty structure,

which appears to be a degeneration of the normal tissue that occupies the bottom and interstices of all articular cavities. In subluxations, the head of the luxated bone, by pressure upon some one point of the edge of the articular cavity, sinks this down to the level of the surrounding bone, or the cavity becomes enlarged in the direction of the pressure.

In reference to the reductibility we may observe of the above-named changes—

1. When no new articular cavity has been formed, the head diminishes in size, and is changed in form, in much the same proportion as the cavity whence it has escaped, and hence it is possible to bring these parts into mutual relation. But these changes are obstacles to the permanence of the reduction, and to the completeness of the subsequent movements. Yet, the mere restoration of the parts to their natural places, tends greatly to the gradual resumption of their original forms and dimensions.

2. When, by reason of the formation of a new joint, the head has retained its size, or has even increased it, while the old cavity has become narrowed, the want of relation between the parts becomes a source of irreducibility.

3. The various depressions or changes in the heads of the bones, which do not prevent the reduction, yet, may interfere with the solidity of the coaptation, and may impede the movements of the part.

4. The consecutive deformities of the articulations, and the laxity of the capsules, are favourable to the reproduction of the luxation.

All the changes in the articulations themselves, as in those of the soft parts surrounding them, are gradual and slow in their progress, giving rise to two consequences of importance.

1. Although these luxations may become after a given epoch irreducible, yet, they are not so for a length of time before the alterations in these parts have reached their height. The author and other practitioners have reduced a congenital dislocation of ten years' standing, and M. Guillard reduced a dislocation of the humerus in a girl aged 16.

2. The error of the old theory of the production of these dislocations by an arrest or absence of development. It is true, that if we examine an old dislocation of the hip, the head of the femur is mis-shapen and lessened in size, and the cotyloid cavity has become triangular and more or less obliterated; but, if we examine these parts at an earlier period, we find both the head and the cavity unaltered, and that the subsequent changes are only manifested by slow degrees.

C.—*Changes in various Parts in the Vicinity of the Luxations.*

A. *New Articular Cavities.*—Among the subjects of congenital dislocation, there are some in whom new articular cavities are formed, while there are others which reach a very advanced age without this ever taking place. From the examination of numerous preparations, M. Guerin deduces as a law that such new cavities are never formed but after the destruction of the capsules, permitting the head to remain in immediate contact with the bone upon which it lies. As a general observation, such a cavity is never formed prior to the age of 12 or 14, but still there is a great variety in the period at which the capsule ruptures. In an old woman (aged 73), who had a double congenital dislocation of the hip, the cap-

sule on one side was found completely perforated, and the head of the bone secured within a new joint, while, on the opposite side, in which the capsule continued entire, no trace of any new cavity existed, there being simply a depression upon that portion ef the ilium upon which the bone rested. After the formation of this new joint, an insurmountable obstacle to the reduction exists, for the ruptured capsule contracts adhesions around the newly-formed surface, and these so firm, as only to be overcome by unjustifiable violence. It also unites with the muscles and surrounding soft parts. The head of the bone too, even prior to the rupture of the capsule, becomes united, by means of a fibro-cellular substance, with the parts with which it lies in contact, forming bridles only to be relieved by the subcutaneous section.

B. *Changes in the Skeleton near the Luxation.*—Changes in form, direction, and dimensions are found in the neighbouring parts of most congenital dislocations, but, it is in that of the hip that these are especially prominent. M. Sedillot was the first to prove the error of the opinion held by Dupuytren, that the *pelvis* did not suffer in these cases. It often does so to a great extent, by reason of the consecutive retraction of the displaced muscles, and the effect of the erect posture. Not only the direction of the various parts of the pelvis becomes changed, but the side upon which the luxation occurs is seized with an arrest of development, and the various foramina and apertures are of consequence smaller upon that side than upon the opposite one. The changes in the pelvis may be regarded under two points of view.

1. As influencing the fixity and solidity of the normal articulations. To a certain extent the consecutive deformities of the pelvis change the direction of the planes of the articular surfaces, and the directions in which they are acted upon by the muscles; and, owing to the admirable natural adaptation of these surfaces, any deviation, however slight, from the normal relations, diminishes the solidity of the parts.

2. They may constitute a consecutive deformity, which will continue, even though the dislocation be reduced: thus, the deformity of the half of the pelvis corresponding to the luxated femur, may be attended with lameness or a difficulty of walking, which may cause even the fact of the reduction of the dislocation to be doubted. The elevation of the pelvis upon the affected side is not permanent, for, if the psoas muscle be brought again into its natural sphere of operation, this will disappear.

In conclusion, we may then state that, under certain conditions, congenital dislocations are reducible; that the probability of their reduction decreases in proportion to the extent of the deformity, and its duration; that they are irreducible when very old, and especially when a new joint has been formed;—and, that the permanence of such reduction is amenable to similar conditions.

CHAP. 2.—*Indications for effecting and consolidating the Reduction of Congenital Dislocations.*

The etiology of the affection at once points out the practical proceedings, and the general therapeutical indications are as follow:—

1. Preparatory and continuous extension of the shortened muscles.
2. The subcutaneous section of those muscles which are unaffected by mechanical extension.
3. The extension or section of the contracted ligaments and capsules.
4. The reduction of the bones to their natural situations.
5. The consecutive treatment, calculated to consolidate the reduction; viz. (1,) a mechanical apparatus, destined to maintain the elongation of the muscles which have not been divided, and the separation of the portions of those which have, and to secure the articular surfaces in due relation: (2,) the gradual employment of motions calculated to secure the better coaptation of the surfaces, and to re-establish the normal movements of the joint.

Irreducible cases have usually been abandoned as hopeless, but the author recommends, as far as possible, the imitation of the normal conditions of an articulation. This is to be done by fixing the dislocated extremity upon the nearest possible point to its proper situation, and forming there a new articular cavity, in which the head of the bone may be able to exercise in a limited manner movements somewhat resembling those that are natural to it. In accomplishing this, we must imitate the proceedings of nature, in procuring the perforation of the capsule, the application of the head to its new site, and the adhesion of the ruptured capsule to the border of the projected cavity. Scarifications of the capsule and of that portion of the bone whereon it is desirable to place the head, permit immediate contact, and facilitate future adhesion. The head thus placed, other scarifications must be made around the circumferences of the spot upon which it reposes, and these should be deep in order to encourage the generation of firm fibro-cellular bands: when these last are supposed to be sufficiently strong to offer some resistance, the development of the new cavity, thus marked out, must be sought to be obtained by the means employed by nature, under analogous circumstances; viz. frequent but circumscribed movements.

A future work will detail the author's various anatomical and physiological considerations involved in this therapeutical suggestion: he has already acted upon it, with success, in two cases of congenital dislocation of the hip, and one of the clavicle, to the latter of which we have already alluded in this article.*

IV.—THE INFLUENCE OF THE ATMOSPHERIC PRESSURE UPON THE PRODUCTION OF THE SEROUS EXHALATIONS.

Our limits render it necessary that we should confine ourselves to a brief notice of this very ingenious essay.

The researches of the Webers of Munich† have amply demonstrated, that the head of the femur, during extension, is in a state of accurate approximation with the walls of the cavity, which contains it, and that it is maintained in situ by atmospheric pressure. When the walls of the ace-

* Page 113. † See Baly's Müller's Physiology, p. 962.

tabulum were perforated in their experiments, and the air thus admitted, the extremity at once descended by its own weight. But M. Guerin has observed in his own experiments, that during certain movements of the extremity, the intimate adaptation of the surfaces to which we have alluded, does not exist, and, thus, under the influence of these movements, overcoming the effects of the atmospheric pressure, there will be from time to time spaces formed producing a vacuum.

Having observed this fact, he extended his observations to other joints, and he found that in all of them, capable of containing synovia, during the state of extension and repose, a perfect adaptation of the articular surfaces occurred, and, that these were held together by the influence of the pressure of the atmosphere, independently of the muscles and ligaments surrounding them; but also in all of them, during certain motions, the spaces to which allusion has been made were produced. He next considered whether the same circumstances did not prevail with regard to the various serous cavities, and even a slight consideration must prove that such is the case. In all of these, between the parietal layer and the visceral layer, a space exists capable of increase or diminution. That the heart does not fill the *pericardium*, but requires a certain space for its movements, is well known; and, when we consider the attachments of the pericardium, we shall perceive, that during the elevation of the ribs in respiration, its cavity must become enlarged, as it must also during the contraction of the cavities of the heart. The close attachment of the costal and diaphragmatic *pleuræ* to the ribs and diaphragm, and the entire covering they furnish to the lung, are well known, and the extensive space that is left between the parietal and visceral portions is susceptible of change according to the variations induced by the elevation of the thorax, the distention of the lungs, as produced in respiration, speaking, the movements, &c. The defect of correspondence in form and size between the parietal and visceral portions of the *peritoneum* must in like manner give rise to the incessant production or increase of spaces in its cavity. So too, in the *arachnoid*, when the brain is expanded or elevated, the internal cavities become dilated while the portions of the peripheral arachnoid approach each other; when, however, the brain contracts or falls inwards, there is a narrowing of the internal, and an amplification of the peripheral cavities.

The formation of such spaces, or their increase when already existing, during certain movements of the joints and serous cavities, M. Guerin has proved by actual experiments, performed by connecting a tube, partially filled with a coloured fluid, with the interior of these parts, and carefully observing the manner in which the elevation or depression of the fluid, corresponded with the various movements induced.

Physiological and Pathological Applications.

These cavities, then, in certain conditions, may be likened to a cupping-glass, in which the air has become rarified and the equilibrium of the atmospheric pressure disturbed. They are thus periodically submitted to a *suction action, which promotes the issue from the vessels of the exhaled fluids.*

There are many observations which confirm this explanation, and are yet themselves explained by it. It has long been known that a greater

difficulty attends the motions of the joints, after ascending great elevations, which arises from the diminution of the pressure of the atmosphere. So, too, the difficulty of moving the joints after long immobility is well known, and indeed mere immobility without active disease may lead to anchylosis. By maintaining the layers of the peritoneum in a state of perfect contact, and thus preventing the occurrence of secretion impeding the union, adhesion between these may be produced, which is not the case in regard to mucous membranes. The same ideas explain the ease with which adhesions between the parietes of serous cavities are formed after effusions. The danger attending wounds of the joints and serous cavities has been long known, but its explanation or prevention have not been suggested heretofore; but now that we are aware of the influence of the pressure of the atmosphere upon the mechanism of the exhalations, the determination of the results which may follow the cessation of this condition is easy. The air, penetrating freely into the serous cavities, then, impedes the mechanism of the secretion of their fluids, which should be induced by a periodical suction, exerted at the orifices of the exhalent vessels; these vessels, by the stoppage of such exhalation, become overcharged with the stagnated fluids, and the ill-consequences, so often seen, result.

A necessary consequence of this theory, is the institution of rules, which have indeed long prevailed empirically, viz. to endeavour as far as possible to exclude the air from the serous cavities and joints, and to promote its expulsion, as soon as possible, if already admitted.

V. The case of dislocation of the cervical vertebra we noticed some time since,* and a re-perusal of the report does not induce us to change the opinion that we expressed, of its being very doubtful whether any dislocation had really taken place.

M. Guerin's works may be perused with advantage, and although we think that some of his conclusions are too general, and rather too hastily arrived, at, yet most of them are well illustrated by experiments, preparations, and allusions to cases which have fallen under his own observation. His theory of the production of deformities gives an intelligible explanation of a large class, the nature of which was heretofore involved in much obscurity; and his doctrines of subcutaneous surgery, susceptible as they are of an extensive application, demand the earnest attention of operating surgeons.

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* Medico-Chir. Rev. No. 67, p. 239.

OBSERVATIONS ON TUBERCULOUS CONSUMPTION, &c. &c. By *J. S. Campbell*, M.D. Senior Physician to the Marylebone General Dispensary, &c. 8vo. pp. 402. Bailliere, Oct. 1841.

THIS is a most laboured essay, more than half of which (221 pages) is taken up with recondite disquisitions on life, necessity, vital actions, tubercles, humoral pathology, inflammation, &c. &c. in which the author has evinced abundance of ingenuity, research, and talent for investigation.

We must, however, pass over the first part of the work, merely exhibiting the CONCLUSIONS which our author has drawn from the matters contained therein.

"In concluding this chapter it may be desirable to take a rapid glance at the points which it has been my endeavour to establish in the preceding pages. I have considered tubercular consumption not as a simple but compound affection, essentially consisting of distinct stages, and distinct varieties of morbid action, some of which are referrible to the organ immediately involved, and some to distant parts, their morbid influences being reciprocally propagated through the medium of the blood.

First, I have considered as, very generally, a demonstrable fact, that the malady is primarily ushered in by manifest derangement in those earlier actions of the process of nutrition by which the heterogeneous matters of aliment are converted into chyle.

Secondly, that the immediate influence of this error is directed to the blood, whose venous current becomes charged with unhealthy particles which the lungs fail to identify with the common mass in a due and proper manner.

Thirdly, that though this state of the blood exists, to a greater or less extent, in all cases of strumous habit, it does not necessarily lead to the actual location of tubercle either in the lungs or system.

Fourthly, that this condition of the blood forms one of the elements necessary to the production of the local affection, but that this requires for its full establishment, the presence of a peculiar structural condition of a portion of the capillary vessels connected with one or other of the circulations.

Fifthly, that the location of tubercles owns a mechanical cause, and depends on a change in the natural healthy relation which the particles of blood bear to the tubes through which it flows; and that tubercles are hence constituted by innumerable minute points contained within the calibre of obstructed vessels.

Sixthly, having in this manner attempted to trace the successive steps by which tubercular disease of the lung becomes established, I have approached the question of these phenomena which appear to depend on the re-action of lungs so circumstanced towards the system, endeavouring inferentially to show, that those are mainly dependant on an imperfect condition of the arterial blood, necessarily resulting, in many instances, from the existing condition of portions of the lung.

Seventhly, that this condition depends on a continuance of the pulmonic circulation through parts of the organ to which air no longer finds admission.

Whether these conclusions are warranted by the observations and reasonings contained in the preceding pages, must be determined by others than the author. I shall only here add, that as they were gradually arrived at by a careful examination of the malady, both in its vital and physical relations, so they have also appeared to afford a somewhat substantial foundation, on which to rest principles of treatment, whether directed to its alleviation or cure. To this portion of the subject it is now my duty to proceed." 217.

TREATMENT.

At the fourth chapter the important—the most important, because tangible—portion of the work begins, with—"Is CONSUMPTION CURABLE?" We regret that our author did not, at once, refer to that noted "FELLOW" of Ely-place—that dignified member of our Profession—that eminent "BELLOWS-MENDER" of Holborn, who daily hints in the newspapers, that he can "stop holes in the lungs" with as much ease as his Brother Tinkers can mend the bottoms of saucepans. This would have saved a world of disquisition, the result only of which we shall here quote for the edification of the profession, and the consolation of the HECTIC.

"Passing over, therefore, for the present, any further allusion to the means by which consumption is most surely indicated, and assuming that the evidence of its existence in the cases subsequently stated, was tolerably perfect, I shall proceed at once to consider the methods of treatment employed, and the principles on which this rests as directly connected with the general pathology of the disease set forth in the preceding pages; and I do so with the preliminary statement of my conviction, founded on no very limited experience, that *as a matter of fact, phthisis is not only frequently arrested in its progress, or remedied after full development by some obscure sanative effort of the system, but that, besides this, it is a disease amenable to the control of remedial means when these are applied in a proper manner, and directed under the guidance of a rational pathology.*" 221.

Whether the latter part of the passage, which we have marked in italics, correspond with the general experience of the medical world, we leave to our readers. It is rather at variance with our own experience.

The term *cure* is somewhat qualified by our author. By this phrase he does not mean to "imply the *entire* restoration of function and organization," but "such an approach to this as enables the individual, under certain limitations and modes of management, to carry on life without inconvenience," &c. We are quite ready to agree with Dr. Campbell, that Nature has given man such an ample apparatus for respiration, that a portion of lung may be rendered unfit for its ordinary functions, and yet the individual may go on performing the common duties of life for many years. We know hundreds of people who have considerable portions of lung hepatized—perhaps tuberculated—and only experience dyspnœa on making much exertion, with thinness and debility. If, therefore, we can devise the means of preventing the further deposit of tuberculous matter, before the lungs are too much charged with this destructive agent, we may prolong life, and even insure a comparative degree of health.

"The pathology of consumption, already sufficiently explained, recognizes three stages:—

First, A primary stage, connected with erroneous action of the digestive organs, in consequence of which the matter of tubercle is presumed to be produced.

Secondly, A deteriorated state of the blood induced by this, during the continuance of which, that fluid presents one of the conditions necessary to the formation of tubercles, their location being contingent on a peculiar pulmonic organization, whose presence is therefore essential to a full production of the disease.

Thirdly, A stage of re-action towards the entire organs and functions of the body, as a direct result of tubercles after their location, the intensity of this being dependant not on their amount alone, but also on the peculiar influence which they frequently exert on the pulmonic circulation.

The indications of cure, which arise as direct corollaries out of these positions, are consequently three also :—

First, To counteract that morbid state of the digestive organs originating the matter, without which tubercles cannot be produced.

Secondly, To accomplish a solution of this matter, after it has passed into the blood, and thus arrest its local deposition, presumed to depend on mechanical retention in the extreme vessels of the pulmonary artery.

Thirdly, To place and retain the patient under such circumstances, in reference to his medical, dietetic, and general treatment, as seem on rational principles best calculated to meet those evils which result, from the existing state of his respiratory organs, thus affording time for removal by the natural process of softening of such tubercles as already actually exist." 225.

Our author acknowledges it as very improbable that we can remove the hereditary disposition to struma, and that we can only hope to counteract this tendency by improving the state of the digestive functions, and purifying the blood of its noxious ingredients. Dr. C. believes that strumous dyspepsia may exist without tuberculous deposition, but the latter never takes place without "strumous dyspepsia." Whether this be absolute or not, no harm can ensue from paying great attention to the said dyspepsia when it presents itself to our observation. It is characterized by two sets of symptoms—irritation of the mucous membrane of the bowels, and depraved secretions, especially of the liver. The papillæ of the tongue are red and prominent, often projecting through a dirty whitish fur, occupying the back and central surface, leaving the edges clean and bright red. The tongue itself is generally moist, flabby, and tremulous—sometimes dry and glazed, when the disease is intense. The tendency of the bowels is towards constipation, the evacuations being seldom healthy.

"The matter extruded is mixed with mucous or gelatinous discharges, sometimes tinged with blood, and various depraved secretions which render the stools frothy, green, and fœtid; on other occasions the motions are of a colour considerably lighter than that of health, from an apparent suspension of the biliary secretion, while on others the liver acts with an augmented activity, of which a bilious diarrhœa is the result.

During this state of things, the abdomen is, almost constantly, tumid and drummy, the appetite capricious, though generally keen and craving, but nutrition languishes almost in proportion to the quantity of food which is received, and the lower extremities especially become weak and emaciated, sometimes appearing like slender dangling appendages to an inordinately bulky trunk." 229.

We need hardly remark that every medical practitioner is constantly in the habit of seeing daily such symptoms as the above in numerous cases, not one case in twenty of which leads to consumption, or indicates that disease, unless the fatal congenital or hereditary disposition or predisposition exists in the lungs themselves to receive these tuberculous deposits—or, where repeated attacks of inflammation in pulmonary structure itself have not occurred. This, indeed, is acknowledged by the author himself.

"The condition which they (the symptoms above mentioned) announce may

become engendered, we have reason to think, even in a body of the most healthy structure, from various causes, such as bad or deficient food, impure air, and the like, especially during the earlier periods of life, but it is certainly more commonly found and more readily excited in those persons, stamped by what has been termed, a phthisical diathesis—a form of constitution undoubtedly transmitted downwards from parent to child, and often found to prevade the members of a whole family through many generations." 230.

We may safely pass over the signs of phthisical diathesis as familiar to every student who walks a hospital. Although disordered conditions of the digestive organs and depraved secretions may doubtless accelerate the progress of tubercular deposition in the lungs—or even occasion that deposition, we firmly believe that another cause, or class of causes, is far more efficient, and far more frequent—we mean irritation or inflammation in the air-passages, induced by cold, by damp, by imperfect clothing, and various atmospheric impressions, in consequence of which an afflux of blood, whether good or bad, is kept up in the lungs, and tubercular deposits accelerated or produced. While we attend to this portion of etiology, however, we have no objection to keep a strict eye on the one now under consideration—STRUMOUS DYSPEPSIA. Dr. Campbell's remarks on diet are judicious. In cases of this kind, it ought to be easy of digestion and containing nutriment of easy extraction by a disordered apparatus.

"Experience appears to determine that this is best accomplished by the employment of a mild farinaceous diet, which possesses the advantage of being converted into chyle, without producing that irritation of the digestive organs which more highly animalized articles but too generally excite. In milk we have presented to us an intermediate fluid, which from the very earliest ages has been extolled in the treatment of consumption in all its forms, and is not less adapted to its preliminary stage of which we now treat. There are very few cases in which it will not agree with the stomach, and should, in combination with the farinaceous food already named, form a large part of the diet employed." 235.

We are not prepared to go the whole length with our author on this point. The chief period of tubercular consumption lies between the age of fifteen and thirty-five, and when the digestive functions are much impaired, and the secretions vitiated. We shall find, in a majority of cases that milk will not agree, and, if the object be easy and complete digestion, plain animal food will answer better than milk. In respect to farinaceous food, it may be recommended where there is a tendency to inflammatory action in the respiratory apparatus, but it certainly is not the very best kind of nutriment for those who are disposed to strumous affections.

In the mean time we have morbid secretions to correct, local irritations to subdue, vigour to communicate to weakened organs of digestion, and many other indications to fulfil, not very easily done—the one often clashing with the other. In hepatic derangements, the author very properly condemns the frequent recourse which is had to calomel, when small doses of the pil. hyd. or the hyd. cum creta would be better. Thus a grain or two of the latter medicine with a little rhubarb and ginger, given every or every second night, till the colour of the secretions becomes natural, will be preferable to the chloride of mercury in most cases. When cough and irritation of the pulmonary apparatus show themselves at an early period of the disease, our author places great dependence on ipecacuanha com-

bined with the alteratives. As an aperient, castor-oil is preferred by Dr. C. to most others. The omission of counter-irritation to the chest, or even of leeches, when cough actually exists, will be a very serious, and in many cases a fatal oversight. Dr. C. recommends the counter-irritation to be applied to the abdomen instead of the chest. We do not coincide with him, unless the irritation be solely confined to the gastro-intestinal mucous membrane. The warm bath is much recommended by our author. We would advise caution on this point—"hoc tu Romane caveto." On the subject of tonics we quite agree with our author.

"That the impaired action of the digestive organs depends, primarily, on some obscure changes in their vital relations, producing what may be termed debility in them, is at least probable; and that the general innutrition, or weakness which pervades the whole system, and frequently in turn establishes the local symptoms of struma in the lungs or elsewhere, arises directly out of this, is as certain as any proposition connected with vitality, but it by no means follows that the medicines generalized under the name of tonics, are those best adapted to such states. On the contrary the plain deduction from these premises appears to be, that the truly tonic plan of treatment depends on the adoption of means best calculated to rectify the original error, not by vain endeavours to obviate its effects; and hence chiefly depends on allaying irritation of the abdominal viscera, improving their secretions, and thus restoring them to that healthy habitude of action without which nutrition, and with it the vigour of the entire system, necessarily languish.

I feel called on therefore to express a strong conviction, that so long as the digestive tube remains in a congested irritable state, and so long as the abdominal secretions are improperly performed, the entire class of tonic and stimulating remedies always do harm, and that, to an extent proportioned to their strength. The case however is different when the abdominal symptoms have declined in whole or part. When the secretions have assumed an improved character, the tumidity of the abdomen subsided, and the tongue put on a more healthy aspect, then, and not till then, does it appear to me that a recourse to tonic remedies is at all admissible.

"Even under such circumstances it is prudent to employ them cautiously. Infusions of the milder bitters, should first be tried; if these produce no febrile excitement, they may either be used with more freedom, or an advance made to the various preparations of cinchona: iron seems to be only admissible when all symptoms of abdominal irritation have subsided; given under other circumstances, it usually aggravates the condition it is meant to cure." 248.

So much for "strumous dyspepsia," "a form of disease which may exist in full intensity, without being succeeded by tubercular deposition, but which, when it occurs in constitutions otherwise prone to take on that action, forms a most important element in its production."

But here we come to another therapeutical indication, dependent on the supposition that the blood is already more or less contaminated, and the morbid matter ready to be deposited, or beginning to be so, in the form of tubercles in the lungs. The nature of this contaminating principle is considered by our author as approaching nearly, if not exactly, to the "proximate principle, albumen," which may be detected in the blood of phthisical and cachectical invalids. The remedy or solvent for these nascent tubercles or their elements in the blood, is the caustic alkalis—a remedy employed for many years in the analogous malady, STRUMA itself. The solution of pure potash is the form used by our author, and great care is

be taken that it be not neutralized by any acid, even carbonic, before or after its entrance into the stomach. Where there are acidities in the primæ viæ, it should be combined with carbonate of potash or soda. We think the Doctor prescribes large doses of liq. potassæ, considering the great length of time that it is necessary to continue the medicine.

"With this view, children under the age of twelve or fourteen may take from fifteen to twenty-five drops of the liquor potassæ, three or four times in the day, according to circumstances, a quantity which with due perseverance is usually sufficient. In adults, from a half to one drachm by measure, repeated at the same intervals, offers them whatever advantages the remedy is capable of producing." 257.

We have been in the habit of constantly prescribing this valuable medicine for more than thirty years past, but we confess that the above doses appear to us allopathic. Suppose an adult to take 240 minims daily (the maximum dose above) for weeks, months, or years. We apprehend that the mucous membrane of the stomach and bowels would become completely denuded of mucus, and that the muscles and fat would be pretty nearly absorbed. Our author recommends milk or distilled water as the vehicle for the alkali. Dr. C. candidly admits that neither this nor any other medicine "will prove effective in cases of consumption considerably advanced." But, as it is difficult to ascertain the degree of progress which the complaint has attained, a trial of the alkali may be made even in apparently desperate cases.

The 5th Chapter contains our author's views respecting the treatment of phthisis in its "STAGE OF REACTION." This stage occurs when the deposition of tubercles materially interferes with the respiratory and sanguifactive processes, and where the irritated or inflamed lung reacts on other organs or functions of the body. This chapter is thrown into three sections—diet—air—exercise, &c.—medicines. The most opposite advice has been given as to diet. One practitioner viewing consumption as a disease of pure debility, recommends beef-steaks and brown stout as the best fare for a phthisical invalid; while another, looking to the inflammatory and febrile symptoms, enjoins the most rigid antiphlogistic regimen. Dr. C. endeavours to take a middle course, and avoid extremes. We know that animal food excites the action of the heart and lungs more than vegetable; but then, considering the imperfect condition of the digestive and respiratory apparatus, "we are often compelled to present to the digestive organs, articles containing as large an amount of nutritious elements as may be compatible with a due regard to the leading principle involved." A diet, therefore, moderately nutritious and sustaining, will generally be found the best. Milk, as before mentioned, Dr. C. considers as the head of the list of nutriments, and he seems convinced that it disagrees with people's stomachs much less frequently than is imagined, especially when combined with farinaceous matters. Then come the vegetable jellies, as Lichen Islandicus.

"Milk, well-baked wheaten bread, and farinaceous aliments, in some one or other of the various forms which the art of cookery so liberally supplies, should thus constitute a large portion of the diet in all cases of phthisis, and the entire of it in those, where symptoms of associated inflammatory action prevail. When however this is not the case—where the acceleration of the pulse and respi-

ration obviously depend on impeded action of the lungs alone—where the emaciation and debility are great—and where gastric irritation is not present to any marked extent—in such examples there seems a call for a nearer approach to that food which in health is the most sustaining and nutritious." 276.

Then we are to have recourse to eggs, and fish once a day, or once in two days. When assimilative powers increase, without augmentation of excitement, we may allow a little game, poultry, soup, with farinaceous substances, beyond which Dr. C. thinks we should rarely go in the advanced stage under consideration. No better, he believes, can be laid down than this principle—" *that the use of a diet as highly nutritious as can be assimilated without leading to any exaggerated action of the breathing function, either directly or indirectly, is the one at all times most proper;* the moment this is exceeded we may feel well assured, that however sustaining the food employed may in itself be, aggravations will follow its adoption."

Wines and ardent spirits are prohibited, notwithstanding the complaints of debility and exhaustion so constantly made by patients. They stimulate, but offer no nutriment. Malt liquors come under a different category. " They may be considered as infusions of grain," containing a good deal of vegetable nutriment, " but associated with an amount of alcoholic stimulus, proportionate to their strength and richness." The brown stout, the Alton ale, and the Scotch malt liquors are hazardous drinks for the hectic lungs. Our author, however, admits them in quantities varying from half a pint to a pint in the day, " where there are no inflammatory symptoms—in short, in examples of purely chronic phthisis." But when do we meet with a disorganizing process going on in the lungs, without more or less of inflammation? We do not believe it possible. It is true that where a portion of lung is already broken down, and the patient is hastening to the tomb, we may, and perhaps ought to allow them those exhilarating malt liquors which give them even a temporary solace or support. But where we have any hope of arresting the progress ef the malady, we believe that the bitter ales—Hodgson's, Bass's, or Richardson's, containing little malt and much hop, will be the best species of malt liquor for phthisical sufferers.

Exercise, &c.—The exaggerated opinion of Sydenham, who thought that " horse-exercise would as surely cure consumption, as bark an ague," has long been given up. *Active* exercise, indeed, is obviously injurious, as hurrying the circulation and embarrassing the lungs; but passive exercise in the carriage, or sailing, are beneficial, as tending to lessen the velocity of the pulse.

Medicinal Agents.—The medical world has been as much divided in respect to remedies as diet in consumption—some advocating stimulants and tonics—others antiphlogistics and depressants. We often see, however, that in the different stages of even the same case, both plans of treatment may be necessary. The chief question is, which plan is the most generally proper? Our author inclines to the class of *sedatives*, in preference to others, " as according best with the fulfilment of the object in view—the restriction, namely, of systematic action, with the ultimate

view of diminishing the necessity for action by the lungs." How digitalis, prussic acid, and several other sedatives act, we are utterly ignorant. Nauseating medicines evidently reduce the force of the heart's action, and thus relieve the pulmonary apparatus: and it is remarkable that, from the earliest ages, emetics had the credit of curing more cases of phthisis than any other remedy. Of this class Dr. C. prefers the saturated solution of ipecacuanha in proof spirit;—because he generally combines it with the caustic alkali, and because the vinum ipecacuanhæ of the shops is often acid.

"Where narcotics are indicated, ipecacuan in substance may be advantageously combined, and the same may be said where slight mercurials or alteratives are demanded by the condition of the abdominal viscera. The quantity of the drug employed can scarcely be defined; much must depend on the circumstances of each case, and especially on the tolerance of the patient's stomach; the only general rule which can be laid down is, to excite a gentle nausea, frequently. To effect this purpose, from ten to twenty drops of the saturated tincture generally suffices, and this may be repeated three or four times a day." 293.

Dr. C. doubts the propriety of exciting actual vomiting, under the supposition that the tuberculous matter lies on the surface of the mucous membrane, as maintained by Dr. Carswell, and may be dislodged by the act of vomiting. His own experience does not corroborate the views of Carsen and Sir James Clark.

Tonics.—There is often (Dr. C. observes, an atonic condition of the digestive organs present, in which tonics are undoubtedly of use—but these organs must be free from marked signs of congestion or irritation.

"Of the various tonic remedies, the lighter bitters appear to me the best. Gentian, Calumba, Cascarilla, and many others, all offer valuable adjuncts to other and more effectual means; and in their infusions, present convenient vehicles for the administration of what I consider our great resource—the alkali. Care should be taken that the infusion employed has been recently prepared, as any evolution of free acid, the result of fermentation, renders it no longer a fitting vehicle for the associated remedy. From the Peruvian bark, or quinine, I have never seen any particular benefit derived." 298.

Narcotics.—The pure extract of lettuce, especially when combined with ipecacuanha, Dr. C. has found to be the best. But he considers the preparation, as found in the shops, completely useless. Dr. Duncan's form he thinks the only one that can be depended upon. The salts of morphia, and the liquor opii sedat. are the best forms of opiates.

In the second section of this chapter our author takes a leap or plunge —we hope not beyond his depth—"*can a function analogous to that of respiration be partially performed on other surfaces than those of the lungs?*" When we read this heading, we were painfully reminded of the vicarious senses of sight and hearing performed in the neighbourhood of Miss Okey's epigastrium. But the impression instantly vanished, for Dr. Campbell is anything but a mesmeric enthusiast. Experience has proved that certain substances received into the stomach reduce the temperature of the body, and along with this, diminish the force and velocity of the pulse. The

explanation of this phenomenon is thus attempted by Dr. Murray, in his Elements of Chemistry.

"The animal temperature," says he, "is derived from the consumption of oxygen gas by respiration; and an increase in that consumption will occasion a greater evolution of caloric in the system, and consequently an increase of temperature; while a diminution in the consumption of oxygen will have an opposite effect. If then, when the temperature of the body is morbidly increased, we introduce into the stomach substances containing a large proportion of oxygen, especially in a loose state of combination, we may succeed in reducing the morbid heat."* 303.

There is no doubt but that all the remedies which experience has proved to be *refrigerants* contain much oxygen.

"We can scarcely fail to conclude, that even in a body structurally healthy, there exists a power of receiving and applying that element in such a manner, as to diminish the necessity of its reception by the lungs." 304.

If this be the case in healthy lungs, Dr. C. observes, it presents us a probable advantage where, from alteration of structure, the functional powers of extracting oxygen from the atmosphere are impaired. It is perhaps on this principle we can explain how acids, nitre and like remedies act. But it is evident that Dr. C., whose great object is to remove the tuberculous deposits by alkalis, cannot attribute much importance to acids and salines. In fact he objects to them, as interfering with the essential means of treatment. But by some experiments which Dr. C. made, it appears that when oxygen gas is kept for some time in contact with the skin, the blood circulating on the surface undergoes, to a certain extent, "changes similar to such as are affected on it in the pulmonary apparatus—in other words, prove that, within certain limits, the skin is to be viewed in man as a respiratory surface." If this be the case with respect to the skin, it is still more so as regards the mucous and serous tissues on the internal surfaces. Our author details some experiments on animals, where oxygen gas was injected into the intestines, and showed the usual changes—absorption of a portion of the oxygen into the blood. In order that the cutaneous surface should be kept in the best state for absorption of oxygen, cleanliness and friction should be enjoined, and the air in contact with the skin should be frequently changed.

"To effect such purposes the patient's body should be carefully washed with soap and water, or a very dilute solution of soda, not less frequently than twice a week, and rubbed perfectly dry afterwards with a coarse but soft towel. On the intermediate days the process of dry friction should be adopted to an extent which must be greatly regulated by the cutaneous irritability in such cases; sometimes the towel only can be borne with comfort, but where the tenderness admits, a soft flesh-brush attains the end we desire in a more effectual manner. In cases where the circulation of the surface is vigorous, and the patient's powers not as yet greatly impaired, frictions with diluted distilled vinegar, carefully dried up afterwards by strong friction, I have often found decidedly beneficial, greatly conducing to the immediate comfort, and at times to the permanent benefit of the invalid. Of these means of treatment, none can be considered as of a novel

* Elements of Chemistry, Vol. I.

character, though the principle on which I presume their benefits to depend, is not the one commonly recognized." 321.

These steps taken, the next great object is, to change the air on the surface as often as possible. Riding on horseback or in a carriage, walking, sailing, swinging, &c., are to be adopted, according to the season of the year and the circumstances of the patient. Swinging and sailing are considered by our author as the best species of passive exercise.

Inhalation.—The third section of this chapter contains remarks on the inhalation of various medicinal substances, as the sedatives of opium, hyoscyamus, conium, prussic acid, &c., or of stimulants, as tar, chlorine, iodine. It is pretty clear, from the following extract, that Dr. C. does not rely much on inhalation.

"I have briefly noticed the principal remedies employed in consumption, as direct applications to the lung. That the method is sometimes useful cannot be questioned, but it should ever be considered as of secondary importance to the constitutional treatment we may deem proper; for, he who looks on phthisis as a local malady, and remediable by local means, will assuredly find himself mistaken. Neither is it to be forgotten, that if inhalation at times confers benefit, it may be productive of much evil; and that especially where stimulating vapours are employed, great care should be taken that little irritability of the pulmonary substance exists." 339.

The fourth section of this chapter contains cursory remarks on other points of local treatment, as adapted to certain symptoms, as inflammation, hectic fever, hæmoptysis, diarrhœa, colliquative perspiration, cough, &c. On these we need not dwell, as there is nothing very different in these remarks from the opinions and practice of the experienced portion of the profession.

The last chapter is occupied with a statement of cases, preceded by a short, but very valuable dissertation on the diagnosis of tubercles in the lungs. To ascertain the existence of these bodies in their early stages of deposition and development is extremely difficult. The attempt to rely on auscultation and percussion *alone*, in such cases, is highly preposterous. We need and require the aid of symptomatology, history, hereditary tendencies, &c., and we shall often derive more authentic information from these, in incipient cases, than from physical signs.

"Percussion and auscultation are without doubt the best and most certain means of diagnosis, which phthisis admits; and were we limited to one set of marks alone, we should scarcely hesitate to adopt them in preference to all others. They are not however infallible—and I hold that in the very early stages of the disease, we are scarcely justified in concluding from them only, that tubercles are present, unless the evidence they offer is also corroborated by the history of the case—the hereditary tendencies of the patient, and the nature of the symptoms which are present." 368.

The principal signs on which auscultators have relied are, greater or less dulness of sound on percussing the upper portions of the chest—absence or diminution of the respiratory murmur in the same situation—and resonance of the voice or cough. These being all distinct, consolidation of the lung is pretty certain—and if in the upper lobes, the great proba-

bility is that the solidification results from tubercles—especially if the patient evince the usual phenomena of phthisical tendency. But then it is by no means always that such physical signs are all present or unequivocal. In the early stages of the disease they are very much wanting. Yet even here, the experienced eye will pretty generally detect the lurking and mortal malady through the medium of other signs than auscultatory.

"The general aspect of the patient—almost intuitively recognized by those accustomed to observe it; the panting respiration—the quick irritable pulse, inordinately accelerated on the least exertion—the usual presence of struma in some external organ—and the contracted, flat contour of the chest, present a combination of symptoms which it is all but impossible to mistake; and we shall seldom find that these are not amply confirmed, by a recourse to auscultation and percussion. It is not however always that symptoms are so distinct, and without question, in numerous examples the general signs amount to suspicion only, while the physical ones either render these more conclusive, or at times announce tubercular occupation with precision, where the others are too indistinct to attract much attention or lead to much alarm. It is therefore especially proper that we should duly consider their relative value, and estimate properly the circumstances under which they may without deception be relied on." 369.

Our author attaches more importance to percussion than to auscultation in the early stages of tubercular deposition; for when tubercles are scattered through the lungs, and at some distance from each other, the respiratory murmur in the intervening spaces can only be pronounced abnormal by those whose ears are very long accustomed to the stethoscope. Both auscultation and percussion, however, ought always to be conjoined, and neither of them trusted to singly.

Our author details ten cases (chiefly dispensary patients) where the treatment appeared to have conduced to the quiescence of existing pulmonary tubercles—three tending to show the possibility of tubercular absorption—and three cases of phthisis in its very advanced stage benefitted by the alkali. These cases appear to be very honestly and candidly stated; and as they must all have been seen by others at the public institution where they occurred, they possess a degree of authenticity, which can seldom be claimed by the histories of cases in private practice. These narratives we must leave to the careful perusal of our readers, as we have considerably exceeded the bounds which we first laid down for analysis of this work. The interest of Dr. Campbell's book regularly increased as we proceeded in the perusal of it, and we conscientiously believe that it is the best and most *practical* treatise on the subject that has appeared in the English language. The style is clear and unadorned, but terse and classical. It is perfectly free from the slightest tincture of quackery, mystery, or puffery; and a tone of candour, modesty, and veracity pervades every page.

THE CYCLOPÆDIA OF ANATOMY AND PHYSIOLOGY. Edited by *Robert B. Todd*, M.D. F.R.S. &c. &c. Part XXII. London: Sherwood and Co. 1841.

THE Number before us maintains the high character of the work. The articles Marsupialia and Monotremata by Mr. Owen, and Microscope by Dr. Carpenter, are particularly worthy of encomium.

It is inconsistent with our plan to offer any elaborate account of a work of this description. A few points are all that we can notice. The first is the—

Periods of Gestation, &c. of the Marsupialia.

The following propositions, observes Mr. Owen, are satisfactorily established, viz. that the young of the Marsupialia are developed primarily, as Tyson conjectured, in the true uteri or cornua uteri; but that, contrary to Tyson's opinion, they are, as compared with other Mammalia, prematurely born; and that, nevertheless, the attachment of the immature young to the nipple is essentially the same as in ordinary mammals, the young marsupial being nourished by the lacteal secretion, and its blood aerated by its own independent respiratory actions.

Such, therefore, being the condition of the problem of marsupial generation in the year 1830, there remained to be determined by exact experiment and observation the period of uterine gestation, the structure of the fœtal envelopes and appendages, the nature of the connection, if any, between the uterine fœtus and the womb, the manner of the uterine birth, and the condition and powers of the new-born young.

With a view to the solution of these questions, I applied for and obtained from the Council of the Zoological Society permission to perform the requisite experiments on the Kangaroos in the menagerie in Regent's Park. A healthy female (*Macropus major*, Shaw) was separated from the rest; she had a young one which measured about one foot two inches from the nose to the root of the tail, and which continued to return to the pouch for the purpose of sucking and for shelter. The right superior nipple was the one in use; it was nearly two inches long, and one-third of an inch in diameter; the mammary gland formed a large swelling at its base. The other three nipples were everted, and about half-an-inch in length.

A healthy full-grown male was admitted into the paddock with this female for a certain period each day, and watched, during that time, by the keeper or myself. In the course of a week the female seemed to be in a condition to excite the sexual ardour, and after a few days toying on the part of the male, she received his embrace on the 27th August, at 1 p.m. The female stood with her fore-paws off the ground, the male mounted, '*more canino*,' embracing her neck with his fore-paws, and retained his hold during a full quarter of an hour; during this period the coitus was repeated three times, and on the second occasion much fluid escaped from the vulva. The male was removed from the female in the evening of the same day, and was not afterwards admitted to her. On September the 2nd, six days after the coitus, I examined the pouch of the female, and

this scrutiny was repeated every morning and evening until the birth of the young kangaroo had taken place. I select the following from the notes taken on those occasions:—

Sept. 6th.—10th day of gestation. The pouch is nearly free from its peculiar brown musky secretion. The right superior nipple retains its large size, and the young one that has left the pouch returns occasionally to suck.

Sept. 11th.—15th day of gestation. No appearance of a mammary fœtus; nipples in the same condition; the young kangaroo continues to suck and return to the pouch for shelter.

Sept. 30th.—34th day. The nipple in use by the young kangaroo (which has died) is diminished in size, and the brown secretion has begun to be formed. Qy.—Will the fœtus seize the larger nipple as the readiest, or be directed to another more proportionate to the size of its mouth?

Oct. 4th.—38th day. The keeper has observed the female putting her nose into the pouch, and licking the entry. She was examined at six in the evening; there was a slight increase of the brown secretion; the nipple formerly in use has diminished one-third in size; the other nipples indicate no appearance of approaching parturition.

Oct. 5th.—39th day. The keeper examined the pouch at seven this morning, and found there the young one attached to a nipple. On being made acquainted with this fact I repaired to the Zoological Gardens, and examined the pouch. The new-born kangaroo was attached to the left superior nipple, to the point of which it adhered pretty firmly. It measured one inch from the mouth to the root of the tail, was quite naked, and covered by a thin semitransparent vascular integument, the place of attachment of the umbilical chord was obscurely indicated by a longitudinal linear cicatrix. The fore-legs were longer and stronger than the hind ones, and the digits were provided with claws; the toes were developed on the hind legs; the body was bent forward; and the short tail tucked in between the hind legs. The little animal breathed strongly, but slowly; no direct act of sucking could be perceived. Such, after a gestation of thirty-eight days, is the condition of the new-born young of a species of Kangaroo, of which the adult, when standing erect on his hind feet and tail, can reach to the height of seven feet. The birth having taken place in the night, the mode of transference of the young to the pouch and nipple was not observed.

The hypothesis of an internal passage from the uterus to the pouch—countenanced by some imperfect anatomical observations on the course of the round ligament to the abdominal ring, and the continuation thence of the cremaster to the posterior part of the mammary gland, together with the primitive inverted condition of the nipple—is wholly refuted by more exact observations of the conditions of these parts. I was chagrined at the loss of so favourable an opportunity of determining *ex visu*, this interesting part of the problem; for it had been my intention, if the symptoms of approaching pregnancy had been more marked, to have established a night as well as a day-watch over the female: but by placing perhaps too much reliance on the observations on the pregnant kangaroo recorded in the 9th volume of the Annales des Sciences, in which the duration of four months is assigned to the uterine gestation of this species, I had n

anticipated so speedy a termination of that process as resulted from my experiment.

In order, however, to remedy, as far as might be, this omission, it occurred to me that if the young kangaroo were detached from the nipple and deposited at the bottom of the pouch, any actions of the parent, by which its original transference from the uterus to the nipple had been aided or effected, might be instinctively repeated, and thus an insight be gained into their nature. As, therefore, the experiments of Messrs. Morgan and Collie seemed to show this might be done without necessarily causing the death of the young one, I performed the experiment with the sanction and assistance of Mr. Bennett, then Secretary of the Zoological Society.

Oct. 9th.—I examined the pouch of the female, and found the young one, now four days old, evidently grown, and respiring vigorously; it adhered more firmly to the nipple than was expected, requiring a continued gentle pressure to detach it: when that took place, a minute drop of whitish fluid, a kind of serous milk, was expressed from the nipple. No blood followed, nor anything to indicate a solution of organic continuity; the extremity of the nipple was small, not swollen as in Mr. Collie's case. The young one moved its extremities vigorously. It was deposited at the bottom of the pouch, and the mother was left and then carefully watched. Soon after this was done she seemed uneasy, was often scratching the exterior of the pouch, and every now and then dilated the cavity with her two fore-paws, grasping the sides of the aperture, and pulling them in contrary directions, just as in drawing open a bag; she then inserted her muzzle pretty deeply into the pouch, moving her head about as if to lick off something from the interior, or perhaps to move the little one. She kept her nose in the pouch sometimes for half-a-minute. I never observed her to put her fore-legs, or either of them in the pouch; they were always occupied in keeping open the mouth of the pouch, while she was at work with her mouth within it. She generally concluded by licking the mouth of the pouch, and occasionally she stooped down to lick the cloaca, which she could reach with ease. When she scratched the outside of the pouch it seemed as if to push up something that was inside towards the aperture. These actions she repeated at short intervals for about an hour; she then lay down and appeared quiet. She had also lain down in the intervals of the above operation, but during that time never meddled with the pouch; when stimulated to do so by some uneasy sensation, she always rose upon her hind feet, and then inserted her muzzle alternately into the pouch and vulva. Observing the freedom with which she could reach both these parts, I was led to believe that the mode of removal of the young from the vulva to the pouch was by the mouth of the mother. Her fore-paws, in this case, would be used, not for the transport of the young, but for keeping the mouth of the pouch open for its reception, it being deposited therein by the mouth, and so held over a nipple until the mother had felt it grasping the sensitive extremity of the nipple.

This means of removal is consistent with analogy; dogs, cats, mice, all transport their young from place to place with the mouth. In the case of the kangaroo, it may be supposed that the fœtus would be held by the lips only, not the teeth, on account of its delicate consistence. Whether this

theory, suggested by witnessing the actions of the mother after an artificial separation of the Marsupial fœtus, be correct, must be confirmed by actual observation. There is no internal passage from the uterus to the pouch:—the mouth of the vagina cannot be brought into contact with that of the pouch, either by muscular contraction in the living or by any force of stretching in the dead kangaroo:—as the young was proved by the result of this experiment not to have the power of itself to regain the nipple, *a fortiori* we may conclude that it could not transfer itself from the vulva to the interior of the pouch and to the apex of the nipple:—the fore-paws of the Kangaroo would not so effectually protect the tender embryo from the external air as the mouth, nor so safely ensure its passage to the pouch, notwithstanding that they are adroitly used in grasping objects, being similar, in respect of the extent and freedom of motion of the digits, to the fore-paws of the Rodents.

After the mother had rested quietly for a short time, we again examined her, but found the young one still detached, moving more vigorously than before. On an examination two days afterwards the marsupium was found empty: the young one had died and had probably been removed by the mother.

Nourishment of the Marsupial Embryo in Utero.

We are at present, says Mr. Owen, ignorant of the changes that take place in the developement of the ovum between the period of impregnation until about the twentieth day of uterine gestation. At this time, in the great Kangaroo (*Macropus major*,) the uterine fœtus measures eight lines from the mouth to the root of the tail: the mouth is widely open; the tongue large and protruded; the nostrils are small round apertures; the eyeball not yet wholly defended by the palpebral folds; the meatus auditorius externus is not provided with an auricle; the fore-extremities are the largest and strongest; they are each terminated by five well-marked digits; those of the hind legs are not yet developed; the cervical fold of the mucous layer or the branchial fissure is still unenclosed by the integument. The tail is two lines long, thick and strong at the commencement; impressions of the ribs are visible at the sides of the body; the membranous tube of the spinal marrow may be traced along the back between the ununited elements of the vertebral arches; posterior to the umbilical chord there is a small projecting penis, and behind that, on the same prominence, is the anus. This fœtus and its appendages were enveloped in a large chorion, puckered up into numerous folds, some of which were insinuated between folds of the vascular lining membrane of the uterus, but the greater portion was collected into a wrinkled mass. The entire ovum was removed without any opposition from a placental or villous adhesion to the uterus. The chorion was extremely thin and lacerable; and upon carefully examining its whole outer surface, no trace of villi or of vessels could be perceived. Detached portions were then placed in the field of a microscope, but without the slightest evidence of vascularity being discernible. The next membrane, whose nature and limits will be presently described, was seen extending from the umbilicus

to the inner surface of the chorion, and was highly vascular. The fœtus was immediately enveloped in a transparent amnios.

On turning the chorion away from the fœtus, it was found to adhere to the vascular membrane above-mentioned, into which the umbilical stem suddenly expanded. With a slight effort, however, the two membranes could be separated from each other, without laceration, for the extent of an inch; but at this distance from the umbilicus the chorion gave way on every attempt to detach it from the internal vascular membrane, which here was plainly seen to terminate in a well-defined ridge, formed by the trunk of a blood-vessel.

When the whole of the vascular membrane was spread out, its figure appeared to have been that of a cone, of which the apex was the umbilical chord, and the base the terminal vessel above-mentioned. Three vessels could be distinguished diverging from the umbilical chord and ramifying over it. Two of these trunks contained coagulated blood, and were the immediate continuations of the terminal or marginal vessel; the third was smaller, empty, and evidently the arterial trunk. Besides the extremely numerous ramifications dispersed over this membrane, it differed from the chorion in being of a yellowish tint. The amnios was reflected from the umbilical chord, and formed, as usual, the immediate investment of the fœtus.

The umbilical chord measured two lines in length and one in diameter. It was found to contain the three vessels above-mentioned, with a small loop of intestine; and from the extremity of the latter a filamentary process was continued to the vascular membrane. The margins of the umbilicus or abdominal opening were very strong, offering much resistance to their division. On tracing the contents of the chord into the abdomen, the two larger vessels with coagulated blood were found to unite: the common trunk then passed backwards beneath the duodenum, and after being joined by the mesenteric vein, went to the under surface of the liver, where it penetrated that viscus: this was consequently an omphalo-mesenteric or vitelline vein. The artery was a branch of the mesenteric. The membrane, therefore, upon which they ramified, answered to the vitellicle, i. e. the vascular and mucous layers of the germinal membrane, which spreads over the yolk in oviparous animals, and which constitutes the umbilical vesicle of the embryo of ordinary Mammalia. The filamentary pedicle which connected this membrane to the intestine was given off near the end of the ileum, and not continued from the cœcum, the rudiment of which was very evident half a line below the origin of the pedicle.

The small intestine above the pedicle was disposed in five folds. The first from the stomach or duodenum curved over the vitelline vein, and the remaining folds were disposed around both the vitelline vessels. From the cœcum, which was given off from the returning portion of the umbilical loop of the intestine, the large intestine passed backwards to the spine, and was then bent, at a right angle, to go straight down to the anus. The stomach did not present any appearance of the sacculated structure so remarkable in the adult, but had the simple form of a carnivorous stomach. The liver consisted of two equal and symmetrically dis-

posed lobes. The vena portæ was formed by the union of the vitelline with the mesenteric, and doubtless the other usual veins, which were, however, too small to be distinctly perceived. The diaphragm was perfectly formed.

The vena cava inferior was joined, above the diaphragm, by the left superior cava, just at its termination in a large right auricle. The ventricles of the heart were completely joined together, and bore the same proportions to each other as in the adult,—a perfection of structure which is not observed in the embryos of ordinary *Mammalia* at a corresponding period of development. The pulmonary artery and aorta were of nearly the same proportionate size as in the adult: the divisions of the pulmonary artery to the lungs were at least double the size of those observable in the embryo of a sheep three inches in length. The ductus arteriosus, on the contrary, was remarkably small. The aorta, prior to forming the descending trunk, dilated into a bulb, from which the carotid and subclavian arteries were given off.

The lungs were of equal size with the heart, being about a line in length, and nearly the same in breadth; they were of a spongy texture and of a red colour, like the veins, from the quantity of blood they contained. This precocious development of the thoracic viscera is an evident provision for the early or premature exercise of the lungs as respiratory organs in this animal: and on account of the simple condition of the alimentary canal, the chest at this period exceeds the abdomen in size.

The kidneys had the same form and situation as in the adult. The supra-renal glands were half the size of the kidneys.

The testes were situated below the kidneys, and were one-half larger than those glands, the superiority of size depending on their large epididymis, with the adherent remains of the Wolffian body. They continue within the abdomen for six weeks after uterine birth.

At a later period of uterine development, when the fœtus, measured in straight line from the mouth to the root of the tail, is ten lines in length, the urachus expands into a small allantois, of a flattened pyriform figure, and finely wrinkled external surface. This bag insinuates itself between the amnios and chorion, carrying along with it two small hypo-gastric arteries and an umbilical vein, but not establishing by their means an organized and vascular surface of the chorion by which a placental attachment is formed between the ovum and the womb. The allantois depends freely from the end of the umbilical chord, and has no connexion at any part of its circumference with the adjoining membrane. Its office is apparently that of a receptacle of urine.

The vitellical or umbilical sac presented the same large proportionate size and vascular structure as in the first described fœtus. The chorion which enveloped this fœtus and its appended sacs was adapted to the cavity of the uterus by being disposed in innumerable folds and wrinkles. It did not adhere at any part of its surface to the uterus, but presented a modification not present in the chorion of the earlier fœtus, in being partially organized by the extension of the omphalo-mesentric vessels upon it from the adherent vitellicle. The digits of the hind legs were distinctly formed in this embryo.

Anatomical Condition and Development of the Marsupial Mammary Fœtus.

The new-born fœtus of the great Kangaroo does not exceed, as we have shown, one inch in length.

By comparing the new-born Kangaroo with a similarly sized fœtus of a sheep, we find that, although, in the Kangaroo, the ordinary laws of development have been adhered to in the more advanced condition of the anterior part of the body and corresponding extremities, yet that the brain does not present so disproportionate a size; and the same difference is observable in the uterine fœtus of the Kangaroo, even when compared with the same sized embryo of an animal of an inferior class, as the bird. This difference, Mr. Owen apprehends, is owing to the rapidity with which the heart and lungs acquire their adult structure in the Kangaroo, whereby the passage of the purer and more nutritious blood through the foramen ovale and left auricle to the primary branches of the aorta and so to the brain is impeded. The brain, however, of the mammary fœtus, though exhibiting a low degree of development, yet is of a firmer texture than in a similarly sized fœtus of a sheep, and attains its ultimate proportion by a more gradual process of growth.

In a mammary fœtus, one inch and a half in length, the urinary bladder is largely developed, and adheres by its apex to the peritoneum, exactly opposite that part of the abdominal integument where a small linear ridge indicated the previous attachment to the umbilical chord and appendage. There are also minute but distinct traces of umbilical arteries running up the sides of the bladder to this point of attachment. As the urinary bladder becomes afterwards expanded in the abdomen, the peritoneum is gradually, as it were, drawn from this part of the abdominal parietes, forming an anterior ligament of the bladder. In a mammary fœtus of the Kangaroo about a month older than the above, there was, at the superior part of this duplicature a small projecting point from the bladder, like the remains of a urachus; but the fundus, now developed considerably above this point, was covered with a perfectly smooth layer of peritoneum; and it is this modification, he apprehends, which led Hunter to suppose that there was no trace of urachus or umbilical arteries in the fœtuses of the *Marsupialia*. In the Sloth, the Manis, and the Armadillo, the urachus is continued in the same manner from the middle of the anterior part of the bladder, and not from the fundus.

In neither of the above fœtuses of the Kangaroo was there any corresponding trace of umbilical vein, although there was a distinct ligamentum suspensorium hepatis, formed by a duplicature of the peritoneum descending from the diaphragm to the notch lodging the gall-bladder, and not entering, as usual, the fissure to the left of that notch: the allantois is too small, and its function too limited for the preservation of any permanent trace of its peculiar vein.

The small intestines in the mammary fœtus, one inch and a half long, when compared with those of the uterine fœtus above described, were found to have acquired several additional convolutions; the fold to which the umbilical vesicle had been attached was still distinct, but now drawn in to the back of the abdomen. The cæcum was much elongated, but the colon proportionately not more developed than in the uterine fœtus; the sub-

sequent modification, therefore, of the large intestines seems evidently destined to complete the digestion of the vegetable food.

The stomach was not sacculated, but the division between the cardiac and middle compartments was more marked than in the uterine fœtus, The liver had now advanced in its development beyond the oviparous form which it presented in the uterine fœtus, the right lobe being subdivided into three. The supra-renal glands bore the same proportionate size to the kidneys. The testes were still larger than the kidneys, and were situated below them, not having yet passed out of the abdomen: this takes place when the mammary fœtus is about three inches long from the nose to the root of the tail. The ductus arteriosus was distinct in the small mammary fœtus, but he could not perceive any trace of the thymus gland. Is this gland unnecessary on account of the precocious development of the lungs? or because of the small size and gradual growth of the brain? The latter appears the more probable condition of its absence, as in the ovoviviparous classes with small and simple brains the thymus gland is rudimental or of doubtful existence.

Notwithstanding that the new-born Kangaroo possesses greater powers of action than the same sized embryo of a sheep, and approximates more nearly in this respect to the new-born yonng of the rat, yet it is evidently inferior to the latter. For, although it is enabled by the muscular power of its lips to grasp and adhere firmly to the nipple, it seems to be unable to draw sustenance therefrom by its own unaided efforts. The mother, as Professor Geoffroy and Mr. Morgan have shown, is therefore provided with the peculiar adaptation of a muscle (analogous to the cremaster) to the mammary gland, for the evident purpose of injecting the milk from the nipple into the mouth of the adherent fœtus. Now it can scarcely be supposed that the fœtal efforts of suction should always be coincident with the maternal act of injection: and if at any time this should not be the case, a fatal accident might happen from the milk being forcibly injected into the larynx, unless that aperture were guarded by some special contrivance. Professor Geoffroy first described the modification by which this purpose is effected; and Mr. Hunter appears to have anticipated the necessity for such a structure, for he dissected two small mammary fœtuses of the Kangaroo for the especial purpose of showing the relation of the larynx to the posterior nares. Tne epiglottis and arytenoid cartilages are elongated and approximated, and the rima glottidis is thus situated at the apex of a cone-shaped larynx, which projects, as in the *Cetacea*, into the posterior nares, where it is closely embraced by the muscles of the soft palate. The air-passage is thus completely separated from the fauces, and the injected milk passes in a divided stream on either side the larynx to the œsophagus.

Thus aided and protected by modifications of structure, both in the system of the mother and its own, designed with especial reference to each other's peculiar condition, and affording, therefore, the most irrefragable evidence of creative foresight; the small offspring of the Kangaroo continues to increase, from sustenance exclusively derived from the mother, for a period of about eight months. During this period the hind legs and tail assume a great part of their adult proportions; the muzzle elongates; the external ears and eyelids are completed; the hair begins to be deve-

loped at about the sixth month. At the eighth month the young Kangaroo may be seen frequently to protrude its head from the mouth of the pouch, and to crop the grass at the same time the mother is browsing. Having thus acquired additional strength, it quits the pouch and hops at first with a feeble and vacillating gait, but continues to return to the pouch, for occasional shelter and supplies of food till it has attained the weight of ten pounds. After this it will occasionally insert its head for the purpose of sucking, notwithstanding another fœtus may have been deposited in the pouch; for the latter, as we have seen, attaches itself to a different nipple from the one which had been previously in use.

Mammary Organs.

In the young Marsupial, as Mr. Morgan was the first to observe in the Kangaroo, the nipples are not visible, but are indicated by the orifices of a kind of cutaneous preputial sheath in which they are concealed. M. Laurent has noticed a similar condition of the nipples in a mammary fœtus of an Opossum and a Perameles. I have also observed it in the mammary fœtus of a Petaurist and Dasyure: it is, doubtless, therefore common to all Marsupials.

Once naturally protruded and the preputial sheath everted, the nipples, in the Kangaroo at least, continue external. They are longer and more slender than in other quadrupeds, and when in use generally present a terminal expansion. This part lies in a deep longitudinal fossa on the dorsum of the tongue; and the originally wide mouth of the uterine fœtus is changed to a long tubular cavity, with a terminal sub-circular or triangular aperture just large enough to admit the nipple, to which the young Marsupial thus very firmly adheres.

In the Phascogale, in which the nipples are relatively larger than usual, and of a subcompressed clavate form, the young, when grown too large to be carried in the pouch, are dragged along by the mother, if she be pursued, hanging by the nipples.

The number of nipples bears relation in the marsupial, as in the placental Mammalia, to that of the young brought forth at a birth; although from the circumstance of the produce of two gestations being for a short time suckled simultaneously, the nipples are never so few. Thus the uniparous Kangaroo has four nipples; of which the two anterior are generally those in use: the Petaurists, which bring forth two young at a birth, have also four nipples: the Thalycine has four nipples: the multiparous Virginian Opossum has thirteen nipples, six on each side and the thirteenth in the middle. In the *Didelphys Opossum* there are nine nipples, four on each side and one in the middle. The *Didelphys Dorsigera* has the same number of nipples, although six is the usual number of young at a birth. In the *Phascogale penicillata* there are eight nipples arranged in a circle. The *Perameles nasuta* has the same number of nipples arranged in two slightly curved longitudinal rows: this Marsupial has three or four young at a birth.

The nipple in all the Marsupials is imperforate at the centre; the milk exudes from six to ten minute orifices arranged round the apex. It increases in size with the growth of the mammary fœtus appended to it.

The mammary gland has the same essential structure as in the ordinary Mammalia; it has no cavity or udder; its chief peculiarity arises from its

being embraced by the muscle, already noticed, which has the same origin and course as the cremaster muscle in the male.

Mammary Pouch.

The development of the pouch is in an inverse ratio to that of the uteri and directly as that of the complicated vaginæ : thus it is rudimental in the Dorsigerous Opossum, which has the longest uteri and the simplest vaginæ : we may conclude therefore that the young undergo a greater amount of development in the womb in this and allied species.*

In the Kangaroos and Potoroos, which have the shortest uteri and longest vaginal tubes and cul-de-sac, the marsupial pouch is wide and deep. It is composed of a duplicature of the integument, of which the external fold is supported by longitudinal fasciculi of the panniculus carnosus converging below to be implanted in the symphysis pubis. The mouth of the sac is closed by a strong cutaneous sphincter muscle. The interior of the pouch is almost naked : a few hairs grow around the nipple : it is lubricated by a brown sebacious secretion. The mouth of the pouch is directed forwards in most Marsupials : the reversed position in the Perameles and Chæropus, where the mouth is directed towards the vulva, has been already noticed. M. Laurent has made the interesting observation of the presence of a rudimental pouch in the male mammary fœtus of an Opossum : he could not discern equal traces of the nipples : that of the pouch is soon obliterated, as the scrotum increases in size.

In the male Thylacine the rudimental marsupium is retained, in the form of a broad triangular depression or shallow inverted fold of the abdominal integument, from the middle of which the peduncle of the scrotum is continued. In the female the orifice of the capacious pouch is situated nearer the posterior than the anterior boundary of that receptacle.

These extracts from Mr. Owen's paper will be perused with interest. That gentleman's contributions to the Cyclopædia are most valuable. The whole work deserves, as we have said on many previous occasions, the warm patronage of the profession.

THE CYCLOPÆDIA OF PRACTICAL SURGERY, EMBRACING A COMPLETE VIEW OF ALL THE DEPARTMENTS IN OPERATIVE MEDICINE. Edited by *William B. Costello*, M. D., Member of several learned Societies National and Foreign. Part X. London, Sherwood & Co. 1841.

THE Part of the Cyclopædia before us is certainly not inferior to its predecessors, perhaps rather the reverse. The later Parts have, in our opinion, improved in style as well as matter. The former has been purged of much

* Is there any essential modification of the membranes of the ovum in these small Marsupials? The means of determining this question are most desirable.

tendency to Gallicisms that disfigured it—and the latter has acquired more of a practical character. We trust that in both respects the improvement will be progressive.

ENCEPHALOCELE. By T. SPENCER WELLS, R. N.

Encephalocele, or hernia cerebri, by which term it is better known with us, is fairly handled by Mr. Wells. After observing that it is divided into accidental, and congenital or spontaneous, he restricts his observations to the latter.

If the sutures or fontanelles are larger or less firm than usual, from slow or defective ossification—if those which are naturally early consolidated continue fibrous longer than usual, or are separated by cerebral effusion—if there be a deficiency in some part of one of the bones of the head, or a fissure have occurred in labour, the walls of the cranium are incapable of resisting the pressure exercised upon them by the brain; or, these being normal, if the brain be unduly developed, wholly or in part, protrusion almost necessarily follows—the weaker parts yielding to the unceasing pressure.

This loss of balance in some cases, will depend on mechanical influences, to which the fœtus is exposed during its intra-uterine life—in others, on some more occult aberration from the normal process of growth and nutrition. Spasmodic uterine contractions would act in compressing the head, if the liquor amnii were deficient, and this may be occasionally the initial cause; but rarely, for the liquor amnii is in far greater proportion, with regard to the bulk of the fœtus, in the early months, than afterwards, when the structures are less delicate and require less protection. That a morbid growth from the uterus may produce changes, not only in one, but in several children, exposed to the same cause, is proved by a case referred to by Frank, of a woman who bore four children, each of whom had a deep depression on the forehead, the bone beneath which was not ossified. This woman had a pointed bony tumour in the back part of her pelvis.

Blows received by the mother during pregnancy will occasionally produce the same effect. Roux gives a case of hernia of the posterior part of the encephalon in an infant, whose mother fell from a considerable height in the seventh month of pregnancy.

Faulty position of the child may check the progress of ossification. Thus Cruveilhier, in his remarks on a case in which the posterior part of the occipital bone was absent, ascribes it to a *renversement de la tête en arrière* during gestation. Otto says, that, in all the cases he has observed, the hernia was owing to effusion; and the defective ossification of the cranial bones was one of the consequences of the effusion.

When no mechanical cause can be traced, encephalocele must either be attributed to the primitive germ having been incomplete or defective; or to accidental malformation, resulting from unknown causes, which impede the regular progress of organization—which, or how, it is difficult to say. Mr. Wells seems to deny that encephalocele can be occasioned by compression of the head in its passage through the pelvis during labour.

Seats of Encephalocele.—Mr. Wells presents us with a Table of the seat of the protrusion in sixty-three recorded cases.

Through an opening in the occipital bone	24
the foramen magnum	7
posterior fontanelle	4
anterior ditto	3
At the root of the nose	5
Between os unguis and os frontis	1
Lambdoid suture	2
Temporo-occipital suture	1
Fronto-parietal suture	1
Frontal suture	8
Between frontal and nasal bones	2
Just over the right eye	2
left eye	1
Deficiency of temporal bones	1
Through base of skull	1
	63

The coverings are the skin and subcutaneous cellular tissue, epicranial aponeurosis, dura mater and arachnoid. Delpech enumerates the pericranium as one of the coverings, and Breschet describes it in his fourteenth observation. All these layers however are so united that they cannot be separated.

The size ranges from that of a nut to a magnitude even exceeding that of a child's head. The vertebral canal is often more or less modified; the spinal column bifid, sometimes in the neck, back, or loins, more rarely throughout its whole extent. The medulla spinalis may be unaltered, but it is often atrophied throughout, and covered with layers of false membrane placed in the subarachnoid tissue. In some cases it has been replaced by a reddish cellular tissue infiltrated with a serous fluid. It is frequently soft and injected.

Diagnosis.—The diseases for which encephalocele has been mistaken, are cephalhæmatoma, various tumors of the scalp, nævus, fungus of the dura mater, serous cysts of the head, hydrocephalic protrusion, and nasal polypus.

The tumors of the scalp which may resemble encephalocele, are the bloody tumor, or sero-sanguineous œdema, so common on the heads of infants after protracted labour or instrumental delivery; and certain encysted or non-encysted tumors of the skin, or subcutaneous cellular tissue, the former class including the species formed by the retention of sebaceous matter in a dilated follicle, meliceris, and atheroma; the latter lipoma, and steatoma.

The swelling caused by infiltration of bloody serum, or extravasation of blood into the sub-cutaneous, or sub-aponeurotic cellular tissue of the scalp, can only resemble encephalocele when the effused matter has become surrounded by a hard ridge, resulting from the effusion of lymph, and consequent condensation of the parts immediately around it, which sometimes occurs, leaving the central part comparatively soft and yie

ing. In no other case is there any thing resembling an aperture in the walls of the cranium: and this ridge cannot be mistaken for the edge of a bony opening, if the finger be pressed steadily on it; for under continued pressure it will gradually disappear, whereas a bony edge would become more evident. And further, these swellings are unattended with pulsation, they are not diminished on pressure, nor are cerebral symptoms produced thereby.

The encysted and non-encysted tumors are distinguished by their superficial situation, indolent nature, and their mobility. They do not adhere to the bones, and the latter can be felt perfect beneath them. They also want the pulsation and other marks of encephalocele.

Nævi resemble encephalocele in pulsating, and being reduced in size by pressure; but their superficial situation, and want of communication with the cranium, are sufficient to distinguish them.

Fungus of the dura mater, in common with encephalocele, is partly reducible on compression, and loss of sensibility or coma are also produced. It is the seat of pulsation, and of a movement corresponding with inspiration and expiration. It passes through an opening in the bone. The common characters being so numerous, perhaps the marks of diagnosis will be best given by means of a table.

ENCEPHALOCELE.	FUNGUS OF THE DURA MATER.
No promonitory symptoms.	Preceded by cephalalgia, and lancinating pains during the absorption of the bone.
Is congenital, or appears before ossification has been completed.	Excessively rare in infancy, but comes on at a period when the bones, sutures, and fontanelles, are completely consolidated.
Situated either on a suture, fontanelle, or some part of the skull, membranous during intra-uterine life.	Most frequently pierces the substance of a bone.
Borders of opening smooth. Only one exception to this rule on record.	Borders of opening rough and irregular.
Frequently pediculated.	Always large at base—never pediculated.

A protrusion of the dura mater filled with fluid would not be readily mistaken for the soft, doughy, elastic tumor or simple encephalocele; but it might be impossible to distinguish the former from a hydrencephalocele; for in both cases the cranium is perforated, the dura mater forms the hernial sac, and the serum contained in the sac passes into the cranium on pressure being applied to the tumor, and compresses the brain. The diagnosis then might be impossible; but it is unimportant, as the treatment would be the same in both cases.

Dupuytren was once called to remove what was supposed to be a nasal polypus, but discovered it to be a cerebral protrusion; and another case of encephalocele, which had passed through an opening in the ethmoid bone

into the nasal fossa, was mistaken for a polypus, and operated on by Richter.

Prognosis.—When the hernial tumor contains a very large portion of brain, death alone can be expected. When the tumor is small, the patient *may* reach adult age, though that is far from probable.

Treatment.—The leading plans have been ligature—incision or excision—puncture—compression.

A. *Ligature.*—There have been *three* recorded cases and three deaths. It is to be hoped there will be no more of either.

B. *Incision and Excision.*—Mr. Wells has collected the particulars of nine cases in which this disease has been treated by incision or excision, in seven of which the operation was followed by death. The most speedily successful case is that, related by Held, of a woman, nineteen years of age, who had a tumor the size of a rennet-apple to the left of the frontal suture. It yielded a little on pressure, and appeared to contain a fluid. He took it for meliceris, and determined to remove it; but, after incising the skin, he recognised an opening in the cranium below the fontanelle, and found that the tumor passed through this opening. It was covered by a membrane, which appeared to contain liquid. He incised this membrane, when two ounces of a yellowish fluid escaped, and the tumor collapsed; and he perceived pulsation and a portion of brain. Dry dressing was immediately applied, and gentle pressure employed, until the brain was reduced. The opening afterwards completely closed. The woman perfectly recovered, and afterwards had several children. Mr. Wells remarks, that the compression employed would, in all probability, have been equally beneficial if employed alone, and certainly, if conjoined with puncture. Incision appears to be equally unnecessary, useless, and dangerous.

C. *Puncture.*—Mr. Wells relates the particulars of six cases in which this was performed. Of these patients four died; in one the result was not ascertained; and Mr. Adam's single case is the only instance of cure—and this, it will be seen, was imperfect. It would appear, therefore, that though puncture may be less dangerous than incision, it is by no means free from risk; for it is extremely probable that many of the patients whose cases have just been detailed, would have lived much longer if the disease had been left to nature. The successful case of Mr. Adams' is the following:

Puncture was performed seven times with a needle, and once with a lancet; and on this occasion alone did the operation *itself* seem to be followed with any fever or unusual restlessness in the infant. Pressure was once applied by means of plaster and bandage; but convulsions came on, and the pressure was never repeated. After repeated punctures, the quantity of fluid became so trifling that the operation was no longer necessary; but the solid part of the tumor, formed of the brain itself, was not diminished. The treatment "kept the disease from progressing until

the child arrived at that state of development when the brain and its membranes became less disposed to watery secretions, and the powers of the constitution enabled the infant to provide a stronger skin, capable of sustaining the weight of the hernia.

Mr. Wells sums up:—The only circumstance under which our present experience can lead us to expect benefit from puncture, are probably when the sac is so much distended that its rupture or ulceration is almost certain. This occurrence is proved to have been fatal in so many instances, that it would be far better to anticipate it by puncture; thereby evacuating the fluid more gradually, and rendering the healing of the opening in the sac far more probable. This result is facilitated by making the punctures in those parts of the sac least affected by the effects of distention.

Mr. Wells has not been able to discover more than two successful recorded cases.

The first is the case of M. Salleneuve, which was related to the French Royal Academy of Surgery. The patient was a child, who was born with a tumor on the posterior and lateral part of the head,—soft; disappearing on compression; occupying the situation where the parietal, occipital, and temporal bones approximate each other; passing through an opening an inch and a half in diameter; and regularly pulsating. A piece of sheet-lead, pierced with holes, by which it could be fastened to the cap, was applied so as to make a moderate degree of permanent compression upon the tumor. It gradually diminished in volume, ossification proceeded, and the lamdoid suture was eventually perfectly closed. A case was also treated in a similar manner by Callisen. He does not give the details, but refers to it in the following terms: "Sic parvas hernias cere bri curari, ac hiatum osseum denique occludi posse, aliorum et *propria experientia* evicit." But he agrees, that when of a larger size, scarcely anything can be done beyond applying some contrivance to shield the protruded parts from injury.

Our author concludes—that when an encephalocele is not very large, and is reducible without producing evidence of cerebral compression, the displaced parts should be returned, and pressure applied by means of a plate of ivory, silver, or lead, maintained by a bandage. Ivory is preferable to a metallic support, as it is not so good a conductor of caloric, and therefore less capable of transmitting variations of temperature to the brain. If reduction be impossible,—and pressure causes no pain or dulness,—compression may be still applicable to prevent further enlargement. Lastly, if the tumor cannot be returned, nor pressure supported, all we can do is to adopt some mechanical contrivance, varied according to the form and situation of the tumor, to protect the brain from external injury, and from cold. It may be advisible to combine puncture with compression under the circumstances before stated.

A well executed article.

ENDOSTEITES.

For an account of this, we are indebted to Professor Walshe. This gen-man has coined the word *Endosteum*, as representative of the medullary

membrane of voice, and *Endosteitis* signifies its inflammation. To this, we suppose, there can be no further objection than lies to the multiplication of names.

The author's account of the pathological condition of the inflamed membrane is succinct. Increased vascularity, he says, forms, as elsewhere, an important feature in the anatomical condition of the inflamed endosteum; the injection is commonly extremely minute, so much so, that in some instances the medulla appears of a uniform florid or livid red colour. It is not very unusual to find blood extravasated in points or patches, and small hæmatomata are sometimes seen. The stage of exudation takes place with extreme rapidity. The medulla and meshes of the endosteum become infiltrated with liquid fibrinous matter, which at first causes softening of the infiltrated tissue; it nevertheless possesses the plastic property in so high a degree, that it almost immediately becomes concrete, increases the dimensions and firmness of the medulla, and causes thickening of the membrane itself. This is best seen in cases of endosteitis following amputation, where the medulla protrudes in the form of a small rounded deep red coloured mass on the surface of the stump, to such extent sometimes, as to require removal with the knife. When, as may be the case, the surgeon is obliged to repeat this little operation, in consequence of re-production of the removed part, the protruding mass at length ceases altogether to contain adipose matter, and is wholly composed of solidified fibrine. The contents of the cells of the cancellated structure, if the inflammation spread to them, undergo similar fibrinous infiltration.

This stage may be brief, and that of suppuration succeed. Pus may accumulate in minute spots, which by increasing and running into each other form abscesses of some size (a size of course always proportional to the space in which suppuration occurs); or a greater or less extent of the tissue may be infiltrated with that fluid. The infiltration extends to the cancellated texture.

Sphacelus is a not unfrequent termination. Necrosis of the internal stratrum of the shaft follows.

Endosteitis may be acute or chronic. Examples of chronic endosteitis are those cases of abscess of the central cavity, and more especially of the articular heads of the bones, of which not a few examples are now upon record. A rarer appearance in the chronic state is induration and thickening, with grey or dirty-red discolouration of the medulla, attended with shrivelling of its substance. This shrivelling of tissue manifestly depends upon the slow contraction, co-advancing with the organization of the fibrine exuded during the acute stages. And, in all probability, the grey discolouration (depending immediately upon impaired freedom of the circulatory movements) the induration and reduced size of the endosteum and medulla, all of them so clearly traceable to the contractile power of the fibrine, are not the most important phenomena due to it. Dr. Walshe conjectures that the contraction in question may so far obstruct the motion of the blood in the vessels as nearly or totally to arrest the circulation in the adjoining bony layers. Even the occurrence of rupture of the delicate communications between the membrane and the bone appears to be in this manner not impossible. Now if either of these states is produced, ne

crosis of the bony layers referred to must be the result. The correctness of this idea remains to be determined.

Chronic, even more commonly than acute, endosteitis leads to changes in the bony structure characteristic of inflammatory action. It plays a leading part in the central or articular caries. Endosteitis, too, is among the causes of the purulent impregnation of the blood accompanied by metastatic abscesses in the viscera, the lungs and liver especially, which prove among the most frequent causes of death in operations requiring division of bony structure. In injuries of the head, this inflammation affecting the diploe, holds the same relation to the purulent collections in the liver. That these secondary purulent accumulations are the result of suppuration in the endosteum, is firmly established by the fact, that in some such cases no other tissue in the body is the seat of primary suppurative inflammation. Probably the veins of the membrane are implicated.

But the particular causes of endosteitis, and its distinctive symptoms, are not so clear as its pathological characters. Nor is it likely that we shall ever be much better able to distinguish in the living body an affection, which cannot long remain insulated, and must usually be, at the best, but the initiative of others. Fortunately, this inability is of little practical importance.

EPISTAXIS.

In treating of this Mr. Spencer Wells, the author of the article, describes an apparatus of M. Martin St. Ange for plugging the nares.

It consists of a straight tube, four inches in length, widened into the form of a cone at the extremity, which is not to be engaged in the nose, and terminating at the other by a small perforated nipple. The widened extremity has two rings like a catheter, and a small cock at the distance of five lines. Beyond this a slide plays, which may be tightened at pleasure by a screw. For the extent of an inch from the other extremity, circular grooves are made, and a small bladder, formed of the cœcum of a sheep, is fixed on the grooved extremity by a firm ligature. To be still more sure that the bladder may not be thrown off from the tube, it is connected by a thread with one of the rings at the handle. The bladder, being softened and folded around the tube, is introduced towards the pharynx, and filled with air or water by injection, which is retained by turning the cock. Slight traction is then employed to draw the small balloon closely against the posterior aperture of the nares. A piece of linen is placed in the orifice of the nares, on to which the screw is to be advanced, and the instrument fixed by its pressure. The whole apparatus can be withdrawn at will by opening the cock, when the bladder, more or less empty, brings forwards the clots contained in the nose.

We should apprehend that, to be efficient, this instrument would make inconvenient pressure on the anterior aperture of the nares. This perhaps might be obviated by an oval plate applied against the aperture and embracing the instrument. But the common means of plugging usually
er very well, and tools ought not to be unnecessarily introduced into
gical chest.

ERYSIPELAS

Is a subject which will always interest both the surgeon and physician. It is treated by Mr. Donellan. We shall advert to some parts of the article.

Influence of Seasons.—There sometimes exists at certain seasons, and even during a course of years, a peculiar condition of the atmosphere, wholly inappreciable by any physical means of investigation, which disposes so completely to erysipelas, that the slightest exciting cause, the smallest abrasion or most superficial excitation of the skin, almost infallibly determines the development of the affection. Sometimes this influence is such that there is no need of even an exicting cause, and the disease assumes a real epidemic character. It is, then, impossible not to admit the existence of an erysipelatous constitution of the atmosphere. Tozzi speaks of an aggravated form of epidemic erysipelas that prevailed at Naples during the Autumn and Winter of the year 1700. A similiar epidemic raged at Toulouse in 1716, which, from the mortality it caused, was compared to the plague. Bromfield mentions an epidemic erysipelas of the head that lasted two years, in which the antiphlogistic treatment was generally attended with fatal results, and bark and cordials were most serviceable. During the epidemic that prevailed in Paris in the year 1828, Dupuytren was reduced to the necessity of postponing all operations that were not urgent to perform, and in the lunatic asylum at Charenton all external revulsions, which constitute the basis of the treatment of mental alienation, were obliged to be suspended.

Contagiousness?—Mr. Donellan would almost seem to think erysipelas contagious in England but not in France. A whimsical notion. We fancy that it is contagious in all parts of the world when the circumstances favouring contagion are present, and not contagious when they are absent. If the person who is *exposed* is *predisposed* and there are concentrated effluvia and imperfect ventilation, we apprehend that there would soon be evidence of contagion on either side of the channel.

Superior liability of the Female Sex?—Women are more subject to it than men; but not, however, in the proportion of four to one, as Frank found it in the Institute of Pavia, when out of twenty erysipelatous patients sixteen were women. Out of twenty patients affected with erysipelas received into Professor Chomel's clinical wards at *La Charité*, thirteen were women. In 630 cases of erysipelas, distributed by the *Bureau Central* to the various hospitals of Paris during the years 1830 and 1831, there were 326 females. In 43 cases of erysipelas observed by Louis, 25 were women.

Precursory Affection of the Lymphatic Glands.—Though general premonitory symptoms usually usher in erysipelas, sometimes there are none to arrest attention. At others, a painful tumefaction of the lymphatic ganglia appears. This tumefaction always manifests itself in the ganglia appertaining to the parts upon which the eruption is to take place, in th

cervical ganglia under the jaw or behind the ears, in erysipelas of the face and scalp, and in the axillary or inguinal, ganglia in the erysipelas of their respective extremities. It is in erysipelas of the face that this circumstance is most frequent and significant. Mr. Donellan has often seen M. Chomel foretell the impending erysipelas of this region before either redness, pain, or tension existed. There is hardly any risk of having our prediction belied when shiverings, followed by fever, are accompanied with pain and swelling of the subcutaneous lymphatic ganglia under the jaw, provided there is no angina or other affection to explain the local and general symptoms.

Sudden Disappearance of Erysipelas.—M. Louis denies the possibility of the *delitescence* (that is the fashionable phrase) of erysipelas. He thinks that those authors who admit it, have confounded simple erythematous redness with erysipelas, in which he says the skin is not only red but has become hard, thickened, and evidently altered in its texture. But Mr. Donellan disputes M. Louis' position, and tells us that we read in a letter from Dr. Chrestien of Montpellier a case of erysipelas of the leg disappearing and followed by delirium, which was subdued by recalling the eruption to its primitive seat by the application of a blister. A similar case is recorded by M. Blandin; a traumatic erysipelas of the lower extremity treated by refrigerants was suppressed, and grievous cerebral symptoms ensued, which however promptly subsided on the re-appearance of the eruption round the wound subsequent to the use of mercurial frictions. It would certainly be bold to affirm that erysipales does not suddenly disappear, but it may be safely said that it rarely does so. There are few of our readers, we dare say, who have seen it do so.

M. Blandin's Notions of Simple and Traumatic Erysipelas.—According to Blandin, lymphitis precedes and always predominates over the inflammation of the cuticle, and it is to this circumstance that he refers the greater gravity of traumatic erysipelas. In external erysipelas, he says, the morbific principle at first disturbs the whole economy, but it is soon thrown outward, localized, and exhausted, whereas in external erysipelas the lymphatic vessels distribute to the whole economy the fluids that have been vitiated by the local phlegmasia, thus continually furnishing toxic materials that are invading the entire organism.

Mr. Donellan appears to be fond of nosological divisions, for he enumerates and describes no less than *sixteen* varieties of erysipelas—either too many or too few—too many if only leading and essential characters are kept in view—too few if it is intended to describe every shade of the disorder. However, here is *his* synopsis of the varieties:—

Apyretic Erysipelas.
Simple Erysipelatous Fever.
Inflammatory Erysipelas.
Bilious Erysipelas.
Adynamic Erysipelas.
Ataxic Erysipelas.
Œdematous Erysipelas.

Phlegmonous Erysipelas.
Traumatic Erysipelas.
Erysipelas of the Head.
Erysipelas of the Extremities.
Erysipelas of the Trunk.
Erratic Erysipelas.
Periodic Erysipelas.
Infantile Erysipelas.
Senile Erysipelas.

Nature of Erysipelas.—The following somewhat grandiloquent language presents us with Mr. Donellan's ideas on this point.

"If we consider erysipelas solely with reference to its local manifestations, it is impossible not to recognize in it the fundamental characters, if of not a frank and legitimate inflammation, at least of a fluxionary movement, with modifications varying according to the nature of the causes that have given development to it; but if we consider it in relation with the entire organism, and this is the proper view to be taken, we find its scope enlarged and its special genius declare itself, and it would be highly erroneous to see in it a pure inflammation, a disease circumscribed in the limits of its topical manifestations: an error that would be highly injurious in its results, as it would lead to therapeutical indications that would be insufficient or hurtful in their application."

The plain English of this is, that erysipelas partakes of the inflammatory and exanthematous characters.

Mercurial Ointment for Erysipelas.—Our readers are aware that this application has been used and given up and used again. The last advocate of its employment is M. Ricord, who assures us, of course, that *his* method is *the* method. This being the case, it is worth knowing.

According, then, to Ricord, the whole of the erysipelatous surface, with a small edging of the healthy skin, should be lightly smeared over with *recently prepared* mercurial ointment; once a day is sufficient if the ointment be not rubbed off; but if this occurrence should take place, it will be necessary to repeat the incrustion. As soon as the swelling subsides and the epiderm wrinkles, although the redness and heat may still persist, the use of the ointment should be discontinued, as this circumstance is the signal of the diminution of the phenomena of exhalation, and of the tendency towards the establishing of the equilibrium between this function and the absorption. If, he adds, the mercurial applications be still persisted in, the absorption soon gets the ascendancy, and accidents of mercurial absorption, salivation, diarrhœa, &c., may be determined. These inconveniences may also take place if the healthy skin be covered with the ointment, and without the advantage of preventing the extension of the erysipelas, as we see it act in several cases of syphilitic affections, covering the symptoms once produced but not preventing their development. The erysipelas is to be thus pursued on each new part it may extend to, unless there be no tumefaction, for in this case the ointment should not be applied or danger of salivation will be again incurred. It is also useless and injurious to apply the ointment on the phlyctænæ. To prevent salivation during the treatment, he recommends the use of an aluminous gargle, and

should it notwithstanding supervene, it should be promptly suppressed by the application of hydrochloric acid to the gums.

Bleeding or Bark in Erysipelas.—Perhaps extravagance has seldom been carried farther than in the treatment of erysipelas—one sect being as furious for bark as the other is for bleeding. Mr. Donellan seems to us to lean too much towards the latter, which, in large towns at all events, and in delicate people, is replete with danger. Nor are we very partial to the ultra use of bark or stimuli. As usual, we apprehend that the truth lies in the mean.

We must confess that we do not admire Mr. Donellan's style. That it is not English we are sure; and we are also sure that it is not French. It is, in fact, a tertium quid between the two; possessing the elegancies and imbued with the genius of neither. This mongrel *patois* which has been latterly imported ought to be in every way discouraged. We would recommend Mr. Donellan to study our best writers, discard as much as possible all foreign terms and turns, and say what he has got to say in the plainest English and the simplest manner. His opinions will lose nothing of their value, and gain much in their expression.

Nor do we deem Mr. Donellan blameless in the *matter* of his article. He appears to know more of what is done in France than of what is going on in his own country. The references to foreign authors are as profuse as those to British ones are meagre. The paper might pass for being written by one Frenchman and translated into English by another.

FARCY, by M. Rayer, is a good contribution, and we are presented with its history in man and in the horse.

FISTULA, too, is carefully compiled and will repay perusal. On the whole, the Part is far from a bad one.

Periscope;

OR

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcunque potest, atque addit acervo."

Notices of some New Works.

PHYSIOLOGY FOR THE PUBLIC. By Dr. *G. T. Hayden.* In a series of Monthly Numbers, price one Shilling each. No. 1, for Nov. 1841. Orr and Co., London—Fannin, Dublin.

MANKIND have a natural curiosity to know the structure and functions of the human frame, and the attempt to teach such knowledge to the public at large, is much more rational and useful than the nature and treatment of diseases. Anatomy is an exact science, and may be readily learnt by any one. Physiology is fast approaching the same degree of certainty, and the broad outline of its laws may be safely and easily communicated to the world at large. Not so with pathology and therapeutics. These are little more than conjectural sciences —if, indeed they deserve the name of science at all. These portions of the "ars medica" consist, as Baglivi long ago said, "entirely in observation of single cases." None but the experienced eye of the medical practitioner can detect diseases, and discriminate one from another. None but the experienced physician can safely select and apply the proper remedies—where there are remedies for the malady.

Hence it is, that a smattering of pathology and therapeutics invariably leads the non-professional man into errors, too often of a fatal character!! But a slight knowledge of the structure and functions of the living machine can do no harm in any case, and may not seldom enable the popular student of this class of knowledge, to ward off diseases by prudent precautions, and attention to the laws of Hygiene and Physiology.

Anatomy and physiology ought, indeed, to become constituent parts of a liberal education, whether that education be acquired in learned colleges or popular seminaries, and Dr. Hayden's plan of delivering lectures on physiology will probably be successful. A publication of these lectures will give them a wide circulation, as they are at a moderate price, and as much divested of technical phrases as the subject will allow. The first number, now before us, does little more than draw up the curtain, and therefore we are not in a position to form any very decided opinion as to the execution of the work. As far, however, as we can judge by the opening number, we are inclined to augur well of its successors. To the able lecturer and author we wish every encouragement; and hope he will be well rewarded for the pains he has taken to enlighten the public mind in a species of knowledge in which every individual is personally—we might say vitally concerned. We can make room only for one short extract as a specimen of the style of the author.

"Life, like its great Author, fills all regions—earth, air, and water. 'Professor Ehrenburgh has discovered animalcules so minute that he computes each cubic line, which is nearly the bulk of a single drop, contains 500,000,000 of those monads, a number which almost equals all the human race.'

Now, when we conceive that life exists in each of these animals as certainly as in the largest, we are at once struck with the hopelessness of the search after that etherial essence which, in one extreme, inhabits a microscopic animalcule, and in the other pervades the vast fabric of the huge whale or ponderous elephant. Still, it will be sought after like the insane pursuit of perpetual motion.

. . . . . 'The bubble on the stream,
That, in the act of seizing, shrinks to nought.' "

THE PROPOSED SCHEME OF MEDICAL REFORM IN REFERENCE TO CHEMISTS AND DRUGGISTS. By *G. Crook*, M.P.S. Price one Shilling. Hastings, London.

The plot thickens. Chaos is coming, if not come again! The mass of heterogeneous laws and regulations respecting the education, privileges, practice, &c. of the physicians, surgeons, and apothecaries of the British Isles, would seem inextricable, and almost irremediable. To add to the confusion—perhaps to cure it—a fourth class (the chemists) are fast raising their heads, and boldly prescribing a remedy which may be termed "*counter*-irritation." This prescription appears to be anything but palateable to the other grades of the profession—especially to the "GENERAL PRACTITIONER." The aid of Parliament, and of stringent laws is therefore to be sought forthwith, in hopes of curbing the *unlicensed* and unbridled application of this powerful agent. The more we have reflected on this subject, the more convinced we are that the evil is without any effectual remedy—at least in this country. Of all professions, avocations, trades, pursuits or callings, that of DOCTOR is the most universal. If you could *consult* every man, woman, and child between the Regent's Park and the Minories, you would not find *one* who could not prescribe some remedy for some disease—many of them for all diseases! Then again, every one prescribes occasionally—almost daily—for himself. A man eats a hearty supper of German sausages and sour beer. Next morning he finds himself tormented with the belly-ache, and repairs to the chemist's shop, where he consults the master or the man, as to whether he had better take a dose of castor oil—blue pill—or black draught. The chemist, after a moment's consideration, recommends him to take an ounce of castor oil, with peppermint water. No sooner said than done. The German sausages are ejected from the premises, and the man goes to his work—praising the "COUNTER-practice" and recommending it to his neighbour. Now this procedure, which is of daily and hourly occurrence, is a completely "medical practice," as if the patient went to the levee at Dr. Chambers' house, and, after waiting two hours and paying a guinea for advice, took the prescription to the same chemist, and paid eighteen pence or two shillings for a pill and draught, not perhaps, a whit better than the castor oil and mint water.

And are the chemists and druggists the only people who minister to the wants and wishes of the community in simple cases and in the remedial way? By no means. A man—perhaps a gentleman—eats an enormous dinner, and commits a debauch in the evening. Feeling head-ache and giddiness next morning, apoplexy rises in perspective, and he sends for Mapleson or some other operator, who seldom hesitates to abstract a pound of blood—without any rescript from Sir Henry Halford or Dr. Seymour. If this be not medical practice, and active practice too, we know not what "PRACTICE" means.

Another has had an apoplectic seizure followed by hemiplegia. The doctors and surgeons are slow in restoring the paralytic limbs, and the patient repairs to Argyle-street, where our friend LE BEAUME prescribes a six weeks' course of Galvanism. Or he goes down to Brighton, where the Great Mahomet prescribes

a dip in Medea's cauldron, from whence he is to come out in the vigour of youth.

In short, there is no end or limit to this extra-professional medication among all classes of society, from the peer to the pedlar. And then the Professed Charlatans! They are to be allowed not only to fill the newspapers with recommendations of their nostrums, but to sell them over the "counter," while the chemist is to be forbidden to recommend a dose of jalap or senna, or a blister, to those who come and ask his opinion as to the preference!

How is this universal medication to be prevented? Only by enacting a law to make it felony or transportation for any man to take a dose of physic, without prescription from a regular practitioner. That John Bull would strenuously resist this law as contrary to the spirit and safety of his "CONSTITUTION," no man, except the wildest theorist, can have the smallest doubt. The only practicable or probable remedy is an equalization of medical education for the three orders of the profession—an abandonment of pharmacy by the "GENERAL PRACTITIONER"—and a surrender of that branch to the chemist, whose education ought then to be regulated—when he will become, and indeed is fast becoming, the ci-devant "APOTHECARY." The education of the "GENERAL PRACTITIONER" is now superior to that of the physician of former days and little inferior to that of the present M.D. Why then does he not relinquish the dispensing branch which must always be a connecting link with *trade*, and a source of great trouble, to himself, as well as of ungenerous suspicion on the part of his patients. This plan is practicable, because it exists in some of the most civilized nations of Europe, as, for instance, in France, Germany, &c.—nay it is acted on by a considerable number of general practitioners in England and Ireland, with infinite advantage. A law to charge for attendance, where medicine is only prescribed not furnished, would we think, be obtained from the legislature—and indeed it only requires a general agreement among practitioners themselves to effect the change, without parliamentary enactments.

Unfortunately for physic, the perpetual wranglings, accusations, acerbity of language, recriminations, &c. which present themselves in almost every page of our periodical journals—in the newspapers—in courts of law—at coroner's inquests, &c. tend to lower the profession in the eyes of the public, and will greatly retard the passing of Acts for the amelioration of the members of that honorable calling! This is the bane of medical society—almost totally unknown in divinity or even in law. It is not very easy to account for this anomaly. No men, of any other profession, are so kind and liberal to each other, in the hour of sickness and distress—but that hour over, they are the thoroughest haters of one another on the face of the globe—a remark made by the late Cuvier! They seem never to dream that, in depreciating their neighbour, they are seriously injuring themselves in the long run. If there were some governing body, call it faculty, senate, council, or college, to regulate the education of the whole profession, and forming a court of appeal in cases of unprofessional conduct, much good would ensue—much obloquy and mal-practice would be prevented, and the general interests of the medical community guarded. As it is, we are a divided BODY, torn by dissentions, jealousies, and clashing opinions respecting medical polity. The prospect appears to darken, instead of clearing up.

BRANDY AND SALT—A REMEDY FOR VARIOUS DISEASES. By *J. H. Vallance.* Price 6d.

Morison's pills, that Lion or Leviathan of Allopathy—the lung-stretcher of Ely-place—mustard-seed—animal magnetism—nay homœopathy itself, may now

hide their diminished heads. "BRANDY AND SALT" cure all diseases, and the remedy is within the reach of every individual, from a duke to a dustman. There never was a more ingenious invention, a more felicitous combination than "brandy and salt." The brandy makes the heart glad—and the salt increases the thirst for more brandy! Lucky invention—especially for the great promulgator, who has an extensive brandy-manufactory in France. None but the veritable *eau de vie* will have any virtue in combination with salt. Bett's and Booth's stuff are worse than useless—that produced in "LA FERTE IMBAULT," by W. Lee, Esq. is the elixir vitæ! Mr. Vallance appears to be the high priest of the temple of health in this country, and having been cured of a "bad leg," gratefully proclaims the following joyful tidings to suffering mortals.

"To all who acknowledge the superintending care of a DIVINE PROVIDENCE, the discovery of the remedy will appear as *a special gift from Heaven.*"

If this be not the height of blasphemy we know not what is! The way in which PROVIDENCE imparted this mighty secret to Mr. Lee, is somewhat remarkable. The estate of "La Ferte" was so much over-run with mosquitoes, and these little buzzing animals were so fond of English blood, that the proprietor had some thoughts of giving up his purchase, and returning to his native town of Leeds. But, just at this juncture, PROVIDENCE imparted to him the grand secret—the remedy, not only for mosquito bites, but for all the ills to which flesh is heir! Mr. Lee was too great a philanthropist—and too religious withal, to let this precious communication from the Deity remain unproclaimed to the nations of the earth. The "LEED'S MERCURY" had the honour of heralding the glad tidings, and now the pamphlet of Mr. Vallance will spread the "providential discovery"—we beg pardon—the divine annunciation, to the ends of the earth. Messrs. Lee and Vallance, however, are extremely candid and honest. They frankly admit that "brandy and salt" will probably fail in rendering man immortal, by reversing the decree—"dust thou art, &c." *See p.* 10. This is a "heavy blow and great discouragement" to the believers in the divine annunciation. There is one consolation, however, in the fact that, where the remedy fails to ward off death, it will, at all events, if freely employed, during life, preserve the body afterwards from corruption, and render it of little use to anatomists in their dissecting rooms.

The saturated solution of salt in brandy ("best French," mind) is to be taken at first, in the dose of a table-spoonful, early in the morning, mixed with water as hot as can be borne by the mouth and throat of the patient. In case of "worms or *paralytic* attacks," it is to be taken undiluted!! In order that all the glory of the remedy should be secured to the proper owner, it is strictly forbidden to take any other kind of liquor than the "brandy and salt" during the cure. This is a cunning law, for the remedy will be sure to be taken to the full extent of the prescription—"and something more"—as Lord Lyndhurst would say,—during the course of the treatment. We must admit, indeed, that there is some modesty in Mr. Vallance's pamphlet. For, while MORISON recommended his pills in *all* diseases, Mr. V. has only culled out forty of the principal afflictions to which mankind is liable, for the exhibition of "brandy and salt." Why he did not throw the remainder of the catalogue into the bargain is best known to himself—perhaps he did not know the names of the others, or found them rather too jaw-breaking, if he consulted Good's Nosology.

Among these "forty thieves" which daily rob us of the most valuable articles of our property—HEALTH, we find the following culprits who are sure to be exterminated by brandy and salt:—viz. gout, consumption! inflammation of the lungs, asthma, scrofula, palpitation, inflammation of the brain, cholera, insanity, cancer, "fevers of all kinds," paralysis, tic douloureux, spinal complaints, enteritis, mortification—and 24 other grievous maladies!! A large list of cases, cured of the various diseases enumerated in the pamphlet, is published at the end of the work. Mr. Vallance naively observes, in conclusion, that he has been

at considerable expense in advertisement, &c. to make his remedy known—"*but very few of my correspondents recollected to enclose a remittance.*" He therefore pretty broadly hints that he will work no more *gratuitously* for an ungrateful public, and that those who choose to apply to him for his pamphlet, must inclose six "PENNY STAMPS!" For actual advice, "ONE SHILLING" must be forwarded, which is to be carefully secured by wax or wafers, as the money has frequently oozed out, and came not to the hand of the philanthropic dispenser of a divine gift to mankind!

While Government permits, and while a community swallows such gross and unequivocal charlatannerie as this—and it is merely a sample—how preposterous is it to merge half, or rather three-fourths of our grievances in the "counter practice of the chemist and druggist!!"

ON THE EMPLOYMENT OF THE MICROSCOPE IN MEDICAL STUDIES. By *John Hughes Bennett*, M. D., Lecturer on Clinical Medicine, &c.—Edinburg, and London, pp. 27. Dec. 1841.

Pathology is divided, and usefully divided, into disorders of function and diseases of structure. The latter are, no doubt, the *consequences* of the former. As long as an organ shews no change in its material substance, when examined by the naked eye, we call its affections functional; but when visible or tangible alterations take place, we pronounce the complaint structural or organic—and too often beyond the remedial agency of our art.

It is highly probable, however, that the slightest *functional* disorder of certain organs and tissues, as the brain, the mucous membranes, &c. are attended, perhaps caused by, some minute changes in the organs themselves, not discoverable by the naked eye. If the microscope could be employed in such cases, it might throw some light on the subject. But how is it to be applied? Functional disorders are rarely fatal: and it can only be where death takes place from some other disease, that the functionally disturbed organ can be subjected to the microscope. The microscope, however, though it may not lead to so much useful knowledge, in respect to *therapeutics*, as the zealous students of histrology anticipate, reveals the minute structure of parts, whether healthy or morbid, in a manner which the naked eye could never attempt to emulate.

"To the naked eye, the brain and nerves appear to be composed of fibres. These have been demonstrated to you by your teachers. Whole volumes have been written in describing them, and numerous theories have been built upon the assumption of their presence. The microscope however tells us, as was first pointed out by Ehrenberg, that these supposed fibres do not exist, or rather that they all consist of numerous tubes, the walls of which are distinct, and contain a fluid which may be seen to flow from their broken extremities on pressure.

In looking at a muscle, the strongest sight can only detect fine longitudinal fibres, of which it appears to be made up. The microscope tells us that each of these fine fibres is composed of numerous smaller ones, and that these are crossed by other lines, which have received the name of transverse striæ. Formerly it was supposed that muscular contraction, the cause of motion in animals, was produced by the fibres being thrown into zig-zag rugæ. It has been shown from the microscopic researches of Bowman, that this appearance is owing rather to relaxation than contraction, which latter depends upon the approximation of the transverse striæ.

What disputes have taken place regarding the termination of the arteries, and the nature and supposed properties of capillary vessels! The microscope has

shown us that a distinct net-work of vessels lies between the arteries and veins, partaking of the properties of either, and possessed of others peculiar to themselves. These have been denominated intermediary vessels by Berres, and serve to connect the arterial with the venous system. What on the other hand was understood by capillary vessels has been shown to have no existence.

On regarding with the naked eye the different glands, in which the secretions are formed, how complex they appear, how various in conformation, and how opposed to one another in structure. The microscopic researches of Malphigi, Weber, Müller, and others, have shown that they are all formed on one type; that the ultimate element of every gland is a simple sacculated membrane to which the blood-vessels have access, and that all glands are formed from the greater or less number, or different arrangement only of the primary structure.

The notion of most men respecting the skin is, that it is composed of epidermis, rete mucosum, and cutis vera. But it was by means of the microscope that Breschet, Vauzème, Gurlt, Simon, and others, discovered its real anatomy, and showed us the existence and relations of the papillæ, of the sudorific organs and their ducts, the inhalent and mucific apparatuses, and so on. All our knowledge of epidermic structures also, such as hair, horn, feather, &c., may be said to have originated in the use of the microscope.

In the same manner the real structure of cartilage, bone, tooth, tendon, cellular tissue, and, in a word, of all the solid textures, has been revealed to us,—so that it may be truly said, that all our real knowledge of structural anatomy, and all our acquaintance with the true composition of every organ in the body, has been arrived at by means of the microscope, and would never have been known without it.

Dr. Bennett, however, does not limit the utility of the microscope to the examination of minute structure in a healthy condition. Its application to morbid alterations is considered by him as still more important than to normal conditions of organs and tissues.

"But in pathology how vastly important, nay, how absolutely necessary, is an appeal to the microscope. How often are men, who have passed their lives in the examination of morbid structure, deceived in determining with precision the presence of inflammation or softening. Indeed, how can it be otherwise, when we consider the deceptive nature of the modes in which the investigation is determined? Thus, an intense degree of redness in a tissue is by some called congestion, by others inflammation. How vague are the ideas attached to the consistence of organs; what appears healthy to one, seems to another somewhat indurated, and to a third softened. Again, it is impossible for such morbid anatomists to decide definitively, on the exact limits of any peculiar morbid structure. Who, for instance, can affirm, that in the brain, because the substance looks white and healthy, and neither softening nor induration be apparent, that it is in a normal state?

Not long ago, I saw a case which will illustrate this point. A man entered the Royal Infirmary, labouring under apoplexy. There was profound coma, stertorous breathing, full pulse, and all the signs of active hemorrhagic apoplexy, The whole right side of the body was completely paralyzed, in a state of resolution, the limbs, when raised, falling down, like inert masses. The whole of the left side, on the other hand, was intensely rigid, so much so, that it was impossible to flex either of the limbs. Dr. Spittal, who had charge of the case, diagnosed hemorrhage in the left, and inflammation in the right cerebral hemisphere. Notwithstanding the most judicious treatment the man died. On inspection, a large hemorrhagic effusion was found in the left hemisphere, so far confirming the diagnosis, and explaining the resolution and paralysis of the right side. In the right hemisphere, on the other hand, neither Dr. Spittal, nor myself, nor any of the assistants, could detect traces of inflammation. There existed, indeed, several small excavations, and the appearance which Dr. Sims has described as

resulting from the cure of ramollissement; but nothing could be detected capable of explaining the severity of the symptoms. On examining it microscopically, however, I found the most evident traces of inflammatory action, and a new product formed in great abundance, to which Glüge of Brussels has given the name of globule of inflammation.

In several other cases, I have convinced myself by means of the microscope, that inflammation existed in textures where nothing abnormal could be seen with the naked eye, and in this manner have been enabled to explain many symptoms which otherwise would have remained inexplicable. A man died a short time since in the Infirmary, who had for several days been affected with loss of consciousness, and rigidity of the right arm. Besides a tumor in the brain, which had been previously diagnosed, I detected, by means of the microscope, inflammatory softening of the left corpus striatum, a lesion which, by unassisted vision, none present at the examination could positively assert to be present.

On the other hand, I have determined, in several cases, that lesions supposed to be inflammatory arose solely from hemorrhage, or simple congestion—that what has been considered tubercle was in fact infiltrated pus—that tumors imagined to be malignant, were really innocuous, and so on. Regarding all these points, we are enabled to get rid of the vagueness and looseness which at present prevail in connexion with them, and by means of the microscope, to arrive at positive information, on which the morbid anatomist may safely rely.

The microscope explains to us also why certain diseases are so intractable to treatment. It shews us, that several morbid lesions are composed of cells, each of which, as I have before stated, possesses an independent vitality. Thus, warts, melanosis, cancer, fungus hematodes, &c., defy the efforts of the practitioner, because he is unable to attack them through the organism of the individual in whom they exist. In fact, they are distinct beings, endowed with a vitality of their own, true parasites, which it is impossible to consider either as animal or vegetable, which feed upon the tissue they are found in, and can only, by its destruction or excision, be removed from the economy."

We must make one other extract to shew the applicability of the microscope to diagnosis.

"Mr. D———, an English gentleman, whose acquaintance I formed in Heidelberg, asked my advice for a complaint, consisting principally, as he stated, of headache, vertigo, and a disposition to faint, under which he had laboured for some weeks. He was thirty-five years of age, of a peculiarly sallow countenance; and though once robust and stout, was exceedingly weak, and greatly emaciated. He could not stand erect for any time, or stoop, without feeling faint. He had constant headach in the occipital region, sometimes extending to the forehead. He was very excitable; and the pulse, although generally slow and soft, would, on the slightest alarm, become rapid and thready. I learnt that he had been very dissipated, had suffered under several forms of syphilis, and had even then a stricture of the urethra, for which he had lately been treated by Professor Chelius. In addition to this affection of the urinary apparatus, he had for the last sixteen months laboured under what appeared to be an affection of the bladder. His urine was often cloudy, contained at different times more or less mucous flocculi, deposited a sediment which varied in amount, and exhaled a peculiarly fetid and disagreeable odour. He had consulted most of the celebrated physicians and surgeons in London. The former had told him that he laboured under disease of the kidney, and the latter, that he had chronic inflammation of the bladder. He even went to Leamington, to consult a celebrated physician of that town. He presented to me a mass of prescriptions, from which I learnt, that he had taken in turn mercury, arsenic, copper, opium, and all the heroic, as well as minor remedies. He had also been frequently leeched, and cupped in the loins; and even when I saw him, had an open issue in the

lumbar region. He had always been kept on low diet, and was on his way to Carlsbad, to drink the purgative waters of that celebrated spring. I really did not know what to advise, and merely ordered him some emollient drinks, until I had further observed the case. One day I took home some of his urine, and examined it with the microscope. Much to my surprise, I found in it the spermatic animalcules in great abundance, some destroyed and broken down, but others entire, so that no doubt could exist regarding their presence. It was now apparent that the semen had found its way into the bladder, and the real nature of the case dawned upon me. On questioning him, I found that some time previously he had been conscious of involuntary seminal emissions. This had been increased by the antiphlogistic treatment pursued; and latterly there had appeared headache, fainting, and the other signs of irregular distribution of blood within the cranium. I immediately ordered the seton to be taken out of his back. Instead of his usual low diet, I ordered beef-steaks and good beer. At the same time, I administered vegetable and chalybeate tonics. Instead of keeping him confined to the room, I ordered him to take short walks, which were to be gradually increased in length, according to his improving strength. Instead of going to Carlsbad to drink purgative waters, I advised him to visit Wildbad, and use the stimulating and tonic carbonic acid baths of that spring. The cold douche to the back was also occasionally to be employed. The gentleman was intelligent, saw the force of my arguments, and followed the treatment proposed; and in six months I heard from him, that he was perfectly restored to health."

We may remark on the above case, that the "stimulating and tonic *carbonic acid baths of Wildbad*," exists only in the worthy doctor's own imagination, there being no carbonic acid baths there at all, and the waters themselves are as pure as the finest rock springs—the *temperature* (98°) being the quality on which their medical agency is founded. SCHWALBACH would have been a much more appropriate place to have sent the patient. But that is of no consequence. The case itself is curious—and we wish Dr. Bennett every success in this Histrological Lectures, which we recommend the students of Edinburgh to carefully attend.

ILLUSTRATIONS OF THE COMPARATIVE ANATOMY OF THE NERVOUS SYSTEM. By *Joseph Swan*. Part VII. (Last.) Price 7s. London, Longman and Co.

We cannot allow this work to be concluded without paying a just tribute to its author. He has devoted much time, great labour, and some pecuniary means to the practical elucidation of the nervous system. He has set himself to work to *dissect* it. The bent of one man's mind leans one way, that of another man's another, and we must take their contributions to the fund of human knowledge as we get them. We cannot quarrel with Adam Smith for not presenting us with an epic poem, nor with Milton for not writing a treatise on the wealth of nations. We accept the generalizations of Müller and the particular dissections of Swan, each good and useful in their way. And we only wish that the history of medicine contained fewer of the former and a less lack of the latter.

The part of the illustrations before us contains plates of the facial nerve of the sow—the connexion of the cerebral nerves with the sympathetic of the same—the cerebral nerves of the jaguar—the sympathetic nerves of the sheep—the olfactory nerve of the horse—the sympathetic and other nerves in the head of the calf—the nervous system of the hypogastric plexus of the male-calf—the hypogastric plexus of the sow—the hypogastric plexus of the ass.

There follow some general and concluding observations, to some of which we shall direct attention.

Cerebrum and Cerebellum in Animals.—Mr. Swan tells us that the brain is more or less spherical or lobulated in all animals; in man, at the upper part of its hemispheres, there is an extensive fissure, and one more or less deep in many of mammalia; but in some of these and the other classes there is a very little, if any, separation. Convolutions answer a particular and not a general purpose; they are very deep in man, and some of mammalia; but in others and the several inferior classes they hardly exist. The great commissure is very extensive in man and such of mammalia as have the hemispheres high and large; it faintly exists in others, in which the lobes only just inclose the lateral ventricles; it is not present in the three lower classes. Ventricles vary in all the classes; the lateral has a posterior horn in simiæ proportioned to the posterior lobe, so that in some it is a mere chink; in birds it extends more posteriorly, at which part its parietes are very thin; it is placed anteriorly in amphibia and fishes. The third ventricle lies between the thalami in mammalia and birds; in birds it extends into the optic lobes; in amphibia and fishes it is continued from the same surface with the lateral. The fourth ventricle exists in all; and in birds, amphibia, and fishes, extends into the optic lobes and cerebellum. The transparent septum exists in mammalia only; in birds, the striated septum supplies the place of it and the great commissure. The former exists in mammalia only, in birds, the floor of the lateral ventricle supplies its place. The great hippocampus exists in mammalia but not in the other classes. The striated body exists in the three superior classes; in mammalia it is similar to that in man, but very different in birds and amphibia. The thalamus exists in the three superior classes, but is very small in amphibia. The soft commissure depends upon the presence of each thalamus; it is very tough in the turtle. The anterior commissure exists in the four, the posterior in the three superior classes.—There is a pineal gland in mammalia and the turtle. The quadrigeminal bodies are distinct in mammalia, but vary, the nates being either larger or smaller than the testes; they are solid at birth; in birds they are flattened and large, and have no distinction like that of the nates and testes, and contain a ventricle in each communicating with the third; they also exist as hollow bodies without any anterior or posterior separation in amphibia and fishes. The base of the brain is divided into lobes in man and simiæ, but in most others there is very little, if any, distinction; the pituitary gland exists in the four superior classes.—Two distinct mamillary eminences exist in man, but they are very generally conjoined in mammalia: they do not exist in amphibia, they are however not only present but separate in fishes. The cerebellum exists in the four superior classes; in the invertebrated its presence is doubtful; it has large lateral lobes compared with the middle, and is large in proportion to the size of the body in man and simiæ; the lateral lobes compared with the middle ones are smaller in mammalia generally; it is convoluted throughout; in birds, it consists principally of a middle lobe, to which is attached on each side a small one like the lobule appended to the lateral lobe of the monkey and other animals; it is convoluted, and has a ventricle; in some of the amphibia, as the turtle, it is hollow, in several it is a mere rudiment. In the cod, it has a small ventricle, and consists principally of a middle lobe; in the skate it has a ventricle, it has also lateral lobes which are somewhat convoluted. The annular tubercle is largest in man, it is proportioned to the size of the crura of the cerebellum; it exists in mammalia, the trapezoid body is a resemblance of the posterior part of it; it is not distinct in birds, and does not exist in amphibia and fishes; it is proportioned to the size of the crura of the cerebellum. The oblong medulla is larger in mammalia in proportion to the size of the brain than in man, but particularly in

accessary, and spinal nerves, and the oblong and spinal medulla. In invertebrated animals the nerves may proceed from the subœsophageal ganglion, or from a prolongation of this in a chord or ring, or from ganglia having the least possible appearance of a brain; in many instances there is no difference in the dorsal and ventral surfaces of the chord or ring, and in the highest of this class there is not the same distinction as in the vertebrated.

Involuntary Motion is under the sympathetic, or such of the common motive as have their powers directed by the action of moving parts placed in contact or connexion with them; it is therefore principally under the influence of the oblong and spinal medulla.

Circulation.—The nerves promoting it proceed from the sympathetic and par vagum, so that it is principally under the influence of the oblong and spinal medulla. In mammalia and birds which have hot blood and a completely double circulation there is a large brain. In animals with cold blood, as amphibia which have not a completely double circulation, and fishes which have one still more simple, the brain is small and the cerebellum may be a mere rudiment. In invertebrated animals there may be a different form of the circulatory organs when the nervous system is similar.

Spinal Marrow.—It gives origin to the sensitive and motive nerves of the trunk of the body; its functions are very limited, independently of the brain. In invertebrated animals, a long chord or ring analogous to the ganglia and nerves of the spinal marrow and sympathetic exists.

Oblong Medulla.—It is required for all the vital functions, and for sensation and motion; the brain, cerebellum, and spinal marrow are not absolutely necessary, they nevertheless, according to their development, extend its powers. Only the two organs of smelling and seeing receive nerves directly from the brain, and they require others from the oblong medulla for the completion of their functions. All the other organs, not supplied by nerves from the oblong and spinal medulla, are indirectly connected with those parts through the sympathetic nerve. If the brain and cerebellum do not immediately promote the functions of the several organs, they complete the concatenation of faculties required in the more perfect creatures.

Brain.—Only a very small brain in proportion to the size of the body exists in some animals, and is principally for the senses of smelling and seeing, and for ministering to the intellect, and for this purpose it is fashioned with modifications of structure. According to the increase of the intellectual faculties, the hemispheres become larger in proportion to the oblong medulla. In invertebrated animals, its most complex state is inferior to that of fishes, and in many instances is so rudimental as scarcely to deserve the name.

Cerebellum.—Its condition may be a mere rudiment in some complicated animals, and increasing from this to its large size in man. The vital and instinctive functions, and those of sensation and voluntary motion, do not depend upon it.

Sympathetic Nerve—It exists more or less distinctly, but with modifications, in the four superior classes; in the invertebrated, the functions usually performed by it are more conjoined with the rest of the nervous system. It is related to the spinal and oblong medulla, through the nerves arising from these parts.

Mr. Swan alludes to the soul, and to the instinctive essence. We confess that he does not succeed in clearing up the mystery surrounding them.

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Grey and White Matter.—Neither the grey nor white matter can be discovered in every animal; but as they exist so extensively, they may be considered as one of the chief means of combination with the nervous element, and thus as a principle.

Shapes of the Grey and White Matter.—The grey and white matter require to be placed in a particular order, shape or form, and to be more or less intermixed with each other; and according to this elaboration are their powers varied and modified, either for general or particular centres. The more extended portions of the brain for promoting the intellectual faculties, and the more particular ones as centres for the origins of the nerves, are formed on an appropriate plan, and have their prescribed situation, but vary in some respects in different animals. The instinctive essence manifests its power differently, according to the condition of the structures through which it acts. The more elaborate the ranges of the fibres of the centres, and the construction of the several organs of the body through which the mind and instinctive essence are approached, the more exalted is the manner in which perceptions and the commands of the will are executed; so that, on account of the great development of the brain in man, the mind receives and imparts impressions, which the instinctive essence cannot. The shapes may, therefore, be reckoned as a principle, as the modifications of the same determine the extent of many faculties.

We cannot take leave of the work without again commending the unwearied diligence of Mr. Swan, nor without holding up for our readers' emulation both the book and its author.

THE DOUBLE-FLAP AND CIRCULAR AMPUTATIONS CONTRASTED; BEING AN ABSTRACT OF A FIRST PRIZE ESSAY AT THE UNIVERSITY OF EDINBURGH. By *F. N. Machardy*, A.M. and M.D., Surgeon. London, Simpkin, and Co., 1841.

WE do not know that we ever saw exactly such an Essay. It is as full of quotations as Burton's Anatomy of Melancholy—of errors of the press as a "last dying speech and confession"—and of novel turns in grammar as a nursery-maid's love letter. Withal, there is much information in it, and a vast deal of labour has been spent on it.

Dr. Machardy leans, and most Scotch surgeons do, to the flap in preference to the circular operation. He urges arguments of all sorts in its favour. These we shall pass over, for the purpose of introducing his statistical facts, which are highly deserving of attention.

AMPUTATION OF THE ARM.

Dr. Machardy presents the results of thirty recorded circular amputations, and twenty-four flap ones.

1. *Circular Operation.*—Mr. Hargrave observes, that amputation of the humerus by the circular incision is confined to the space between the elbow and the insertion of the pectoralis major; such selection being apparent from the nature of this operation requiring an equalized distribution of muscular tissue surrounding the limb.

Key and Cooper, at Guy's; Guthrie and White, Westminster; Travers, St. Thomas's; Hawkins and Keate, St. George's: Latta and Hunter, Edinburgh:

and Cooper, at Glasgow Infirmaries, have severally amputated the arm by the circular incision, the results of which are now subjoined:

Of xxx amputations,
1 had Un. by Suppurat.; 2, second Hem.; 3, Phlebit.; 1, Erysipelas; 6, Gang.; 1, Abscess; 4, Spasm; 3, Conical Stumps; and 5, Necrosis; 4, Resected Circular Stumps.
Generally, 4 ligatures were applied.
Time of cure, 14 to 60 days.
Majority, chronic cases.
Average age, 20.

Deaths, 9. 3 from immediate amputation, 2 of which were succeeded by phlebitis in debilitated cases, æt. 11 and 18; 1 phlebitis and another erysipelas, succeeding amputation for gangrene, æt. 18 and 72; 1 scrofulous disease, æt. 11; 1, gangrene, æt. 58; 1, diseased lungs; and 1 from the effects of the operation, æt. 63.

2. *Flap Operation.*—Syme and Lizars conceive, that if this method is applicable anywhere on the body, it is between the elbow and shoulder joint, and within these limits has the former and Dr. Busche found it successful, in cases of emaciated individuals, where there was flaccidity of muscular fibre.

Key, Morgan, and Bransby Cooper, at Guy's; Liston, and Mr. Cooper, at the North London; Wardrop, at the Hospital of Surgery, Panton Square; Ballingall, and Syme, at Edinburgh: and Messrs. Weir, and Perry, at Glasgow Infirmaries, have amputated by the double flap, as well as Klein, Græfe, and Langenbeck, who, by such a system, have made admirable stumps, with results as follows:—

Of xxiv amputations,
1 Un. by Suppurat.; 2, Sec. Hem.; 1 Phlebit.; 2, Erysipelas; and 4 Gangrene.
Generally, 4 ligatures were applied.
Time of cure, from 18 to 22 days.
Majority, chronic cases.
Average age, 30.

Deaths 5. 2 from secondary amputation, the one being followed by phlebitis the other gangrene, æt. 55: 1 from the effects of gangrene causing amputation, æt. 20; and two from gangrene attacking the stump.

Klein, Liston and Cooper, have advocated antero-posterior flaps, which, though of general application, still possess the disadvantage of favouring a protrusion of bone, when formed at the insertion of the deltoid muscle; but by their adopting the lateral flaps, as employed by Garengeot, and Mr. Morgan at Guy's, this occurrence will be entirely prevented.

Hey deemed the flap unnecessary in the arm, and many operators are of opinion that a sufficient stump can be effected by the circle; but even here there are living monuments of *its* deficiency, such as have never yet been recorded of the flap.

AMPUTATION OF THE FORE-ARM.

At Guy's, Key, and Bransby Cooper; St. Bartholomew's, Lawrence, and Sir Anthony Carlisle; and at the Edinburgh Infirmary, Latta, have amputated the fore-arm by the circular operation, the result of whose experience with that of others is now detailed:

Of xxvi amputations,
2 had Un. by Suppurat.; 1, Sec. Hem.; 1, Phlebit.; 2, Spasms; and 1, Conical Stump.

Generally, 3 to 5 ligatures were applied.
Time of cure, 9 to 20 days.
Majority, chronic cases.
Average age, 20.

Deaths, 2. 1 from Phlebit. following amputation for gangrene, æt. 21.; the other from hæmorrhagic disease, æt. 39.

By Key, and Bransby Cooper, at Guy's: Lawrence, St. Bartholomew's: Wardrop, Hospital of Surgery, Panton Square; Latta, Ballingall, and Syme, Edinburgh; and Messrs. Cooper and Perry, at Glasgow Infirmaries, has the flap been employed with the following results:—

Of xxvii amputations,
2 had Un. by Sup.; 1 Sec. Hem.; 2, Gang.; and 1 Cystitis.
Generally, 2 or 3 ligatures were applied.
Time of cure, 7 to 25 days.
Majority, chronic cases.
Average age, 25.
Deaths, none.

AMPUTATION OF THE THIGH.

1. *Circular Amputation.*—At La Charité, Kuhk; Guy's, Sir Astley Cooper, Key, Keate, and Morgan; St. Bartholomew's, Lawrence, Vincent, Lloyd, Stanley, Earle and Keate; Middlesex, Bell and Mayo; Westminster, Guthrie and White; St. George's, Brodie, Keate, Jeffreys and Hawkins; St. Thomas's, Sir C. Blike and Green: and, at the London Hospital, Sir William Blizard and Mr. Andrews, have employed the circular incision on the thigh; with what success the following statistics exhibit:—

Of c amputations,
20 had Un. by Sup.; 9, Sec. Hem.; 3, Phlebit.; 2, Erysip.; 7, Gang.; 4, Cystitis; 7, Spasms; 5, Con. Stump; and 10 Necrosis.
6 Resections of circular stumps.
Generally, 2, 5, 6, 8, 9, 12, and 16 ligatures were applied.
Time of cure, 14, 20, 25, and 60 days.
Majority, chronic cases.
Average age, 30.

Deaths, 28. 6 from secondary amput., 1 followed by gang., respective æts. 2, 26, 44, 45, 57, and 64; 1, immed. amp. drayman, æt. 42; 1, effects of operation for gang. æt. 52; 1 gang. lax fibre, æt. 52; 2, suppuration, 1 in arteries, the other in stump, æts. 4 and 12; 1, sec. hem.; 6, irritable stump, inducing secondary disease, æts. 20, and upwards; 3, phlebit. æts. 30, upwards; 2, hectic fever; 1, gout; 1, general injury previous to operation; 2, scrofulous diathesis; and 1 from the effects of resection.

2. *Flap Amputation.*—Though Dupuytren declared, that the flap operation in the trunk of a member had for long been banished from modern surgery, yet its revival in the thigh seems well established by Roux at La Charité; Key, Morgan, and Bransby Cooper, Guy's; Vincent, St. Bartholomew's; Mayo, Middlesex; Sir Anthony Carlisle, Westminster; Brodie, St. George's; Walker and Green, St. Thomas's; Luke, London; Liston, North London; Ballingall, Syme, and Lizars, Edinburgh; Drs. Buchanan, and Macfarlane, Messrs. Davidson, and Perry, Glasgow Infirmaries, with the subscribed results:

Of cii amputations,
Un. by Sup.; 9, Sec. Hem.; 8, Phlebit.; 1, Ery.; 9, Gang.; 4, Cyst.; Partial Con. Stumps, oc. by disad. in cure; and 2 Nec.; 4, Flap Resections

of Circular Stumps; and of 1 Flap Stump, occasioned by phagedenic ulceration.
Generally, 2, 3, 4, 5, and 15 ligatures were applied.
Time of cure, 10 to 27 days.
Majority, chronic cases.
Average age, 25.

Deaths, 28. 5 from second. amput., gang. supervening on 2, and phlebit. on one, æts, 50, 56, 58; 1, immed. amput. and general bruises; 3, loss of blood depending on operation, one in which no arteries were tied, æts. 10, 20; 8, phlebit. æts. 11 to 32; 2, gang. appearing previous to the operation in one, and subsequent in the other, æts. 18 and 40; 1, effects of necrosis previous to amputat., æt. 10; 1, excessive suppurat.; 1, erysip.; 2, operation for compound fracture, æts. 40 and 58; 1, abscess; 1, exhaustion, æt. 31; and 2 from fever, æts. 34 and 36.

AMPUTATION OF THE LEG.

1. *Circular Amputation.*—By M. Cloquet, at Hôpital de l'Eisle; Morgan, Key, and Bransby Cooper, Guy's; Sir Charles Blike, Lawrence, and Earle, St. Bartholomew's; Guthrie, Westminster; Travers and Hawkins, St. George's; and Messrs. Macfarlane and Weir, Glasgow Infirmaries, the circular division of the leg has been performed; and although Bromfield, Syme, and Mr. Langstaff have instanced woful results from this operation, yet Latta and Sir Astley Cooper have found it very successful. However, the following numerical results may aid the illustration:—

Of xliii Amputations,
9 had Un. by Sup.; 3, Sec. Hem; 2, Phlebit.; 2, Erysip.; 7, Irrit. or Spasms; 6, Con. Stump; 6, Gang.; and 1, Necrosis.
3, C. Rections.
Generally, 3 to 6 ligatures were applied.
Time of cure, 21 to 50 days.
Majority, chronic cases.
Average age, 35.

Deaths, 7. 2 from Amput. for Comp. fract. tending to Gang. æts. 60 and 21; 1, Amput. for Gang. æt. 52; 1, immed. Amput. Gang. supervening, æt. 17; 2, Amput. for dislocations, Gang. attacking the stumps, æts. 60 and 53; 1, excessive Suppurat.; and 1, Second. Amputat.*

2. *Flap Amputation of the Leg.*—The lateral double-flap operation, as practised by Key at Guy's; White, Westminster; Travers and Green, St. Thomas's; Wardrop, Hospital of Surgery, Panton Square; Syme, at Edinburgh; and Macfarlane, at the Glasgow Infirmaries, has now almost been laid aside even by Roux, who revived it, and has given place to the antero-posterior flaps, or, more

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* These results, meagre as they may be, confirm the views in favour of primary amputation, so ably and justly advocated by Thomson (Obs. on Hosp. in Belg. 1816,) Cooper, Lawrence, Guthrie, Buchanan, Depuytren, Boucher (Mém. de l'Acad. de chir. t. 2, 1753, p. 461,) and Larrey (Mem. de chir. milit. t. 1 et 3, p. 349.) By primary amputation, Percy, at the head of the military surgery in France, lost 6 out of 92, or about 1 in 15; Lucus, 5 out of 75, or 1 in 15; and, on the last days of July, all were cured, generally in the space of 25 days. Of secondary, 7 died out of 11 at Glasgow Infirmary (Glas. Med. Jour. v. 3 and 4, pp. 113, 220:) Pelletan, at the head of the Civil Hospitals in Paris, lost 5 out of 6, or 1 in every 1 and one-fifth; and similar results have been observed by C. T. Kuhk at Hôpital La Charité; and at Meath Hospital, Dublin, as is learned from its quarterly reports.

strictly, the *single flap* of Dupuytren or Liston, to the former of which, however, viz. the lateral amputation, the following results apply:—

Of xii Amputations,

1 had Un. by Sup.; 1, Sec. Hem.; 3, Phlebitis; and 2 Sinus.; 1 Resect. of Cir. Stump.

Generally, 1 to 3 ligatures were applied.

Time of cure, a few days.

Average age, 30.

Deaths, 4. 3 from Phlebit; and 1 from Gang. ætæ. 35, 47.

GENERAL COMPARISON OF THE TWO OPERATIONS.

Out of 199 cases by the circular incision,			Out of 165 cases by the double flap,	
42	or 1 in every 4.73-	had Un. by Suppurat,	21	or 1 in every 7.85-
15	13.26-	Sec. Hem.	13	12.68-
9	22.11-	Phlebitis	12	13.75
5	39.8	Erysipelas	3	55
19	10 47-	Gangrene	15	11
5	39.8	Abscess	7	23.57-
19	10.47-	Spasms	None.	
10	19.9	Conical Stump	3	55
16	12.43-	Necrosis	2	82 5
16	12.43-	Resections	1	165
156	1.27-	Absolute ratio	77	2.14-
46	4.32-	Total deaths	37	4.45-

This then, says our author, is experience, without which, as Lock and Bacon have declared, no science can be complete; and if these facts are as true as they have been impartially collected, they evidently show the *double* superiority of the flap over the circular incision.

These are the statistical data collected for us. They reflect, if accurate, which we presume they are, very great credit on the industry of their compiler. But we do think him rather hard on the "Circulists" and Circular Amputation. He badgers them unmercifully. In fact they can't survive it, and we soon shall hear of circular amputations as obsolete samples of the wisdom of our ancestors.

"Just as if better stumps could be formed by the circular incision, which, though evidently entitled to the appellation of 'plump,' still, generally bear no small rememblance to a ship amputation, where the Captain operated as another read; so by the alternate use of theory and practice, the limb was dismembered in the course of a day, leaving for years, in every sense, rotundity of parts, but an almost denuded bone."

"Analogous to those cases of extensive burns on the neck, where the cure was deemed complete, yet the chin left bridled to the breast, are the instances of circular amputations of the thigh, condemned to the Cripplegate Workhouse, for twenty years under the superintendence of Mr. Langstaff, in whose museum relics yet remain, emblems of unphilosophic surgery—of unphilosophic men!"

Our author winds up:—

"Just as three memorable eras have arisen in surgery—the invention of the ligature by Ambrose Paré—the tourniquet by Louis Petit—and the flap by Loudham and Yonge—so have torsion and styptics made attempts to subvert the first, manual compression the second, and an incorrigible ancestral adherence to the circular incision the last. Yet each have been fraught with blessings to mankind—each has revived the Syracusan ejaculation—Εὑρηκα! Εὑρηκα!"

Spirit of the Foreign Periodicals, &c.

REMARKS UPON FRENCH PHYSIC AND PHYSICIANS BY A GERMAN.

WE all know the importance of hearing the opinions of enlightened strangers on our habits, manners, and institutions; self-love and egotism are too strong among nations, as well as among individuals, to allow the parties themselves to form an impartial judgment.

Dr. *Wunderlich*, of Stuttgard, recently visited Paris, and carefully examined the numerous hospitals of that attractive capital. Being well acquainted with French literature, and having had an opportunity of coming into contact with many of its most distinguished ornaments of the present day, he has thrown his observations together in a small volume, entitled "Vienna and Paris," from which we shall make a few extracts.

"At Paris," says he, "a young physician is obliged to do a *something*, and that as early as possible, to bring himself into notice; if he does not every now and then busy himself to strike out a novel idea or discovery, on some subject or another, he will inevitably lapse into the most profound obscurity. It is of very little consequence whether the propounded discovery be soon found to be unimportant, or even utterly worthless; the momentary effect has been produced; the author is spoken of, and his fortune is made. A German, on the contrary, is amassing materials during the whole of his life; he goes on, heaping facts upon facts, and waits many a long year before publishing anything: he then may acquire the reputation of being a profound solid man, although he has never brought anything before the public."

"When a Frenchman meets with what seems to him a new idea in his path, he at once makes it known in every possible way; it is propounded and illustrated in lectures, extended in memoirs, condensed in reclamations, and finally brought again and again forward in a variety of articles by pupils, who fatigue every one that approaches them with their favourite theme. If the discovery turns out to be a fallacy, it is, as a matter of course, forgotten, and the author sets about finding out another. If, however, it is at all admitted, he at once derives honour and profit; but he does not allow himself to sleep upon it; for the public is forgetful, and he must soon seize some other plan of re-awakening its attention. In Germany a *savant* broods over an idea until it has become old, or until a more active neighbour carries it off from him. In this manner nothing, generally, is published at a mere hazard, and often nothing at all is published by the discoverer himself; hence, in spite of the immense development of German literature, works which contain new ideas are exceedingly rare. In France, the spirit of emulation (*concurrence*) gives birth to numerous abortive productions: but, at the same time, it has the effect of quickening the mental faculties, keeps them in constant play, and thus often ends in producing good results. In Germany, men of merit fall back upon themselves, repose in the conviction that they know more than other people, and are silent. There is amongst us (Germans) more than one physician whose equal for knowledge and experience could not be found in France; but unfortunately science is nothing the better for this; for the light is hid under a bushel, and the treasures are buried in the grave. How many able men shun publicity and keep all their ideas to themselves, for fear of being attacked by bold and ignorant critics!"

Effects of Centralization.

"In France every thing is *at* Paris and *for* Paris. Whoever has pretensions to

glory or fortune goes to the metropolis; if he succeeds in dictating laws there, the whole of France receives and admits them. If they are started in any of the provinces, they inspire no confidence; for it is in Paris where are all the journals, the hospitals, the editors, and the public 'which approves or condemns without appeal.' To desire a modest success, is to desire no success at all; a man must either shine and be known, or he must be satisfied to remain a cypher. Now no wise person can fail to perceive the numerous disadvantages of this exaggerated spirit of centralization; they are admitted by many of the ablest men in France, who nevertheless strive all in their power to counterbalance and oppose it.

In Germany it is far otherwise; the multitude of medical schools diffuses a love for science among the most humble village practitioner; for near him is some university where he can refresh his knowledge and professional zeal, or communicate the fruits of his own experience.

There results, we must however confess, from this system a degree of scientific anarchy, and a fractionary division of ideas which may be injurious to the progress of general science. But this inconvenience is less prejudicial than the former. To sum up our thoughts in a sentence, we should say, that in France the despotism of the capital paralyses the insulated efforts of the original exertions of the provincial practitioners, and that in Germany they are too apt to follow a beaten path of routine.

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"From the very commencement of his studies, the French student pursues a different plan from that usually followed in Germany. It is in the Amphitheatre that he begins his operations, and there he carries on his dissections with zeal and assiduity; for he well knows that knowledge of anatomy, and manual dexterity are by far the best, if not the only, means that can open a new path to him. He first becomes a candidate for the situation of *externe* in some hospital; every place and every distinction which he aims at is the prize of a first *concours*. Without doubt these public trials have their inconveniences; but they possess the advantage of obliging the student to express his ideas with clearness, and enounce them without embarrassment.

Then, in the hospitals he studies diseases at the bedside of patients, and not in books. He thus acquires a clinical tact and experience far beyond his literary acquirements, and I have known many *internes* who could quite confound the generality of German physicians in matters of diagnosis and symptomatology. In theoretical medicine, in chemistry, botany, and other accessory sciences, they are far inferior to our countrymen.

During the rest of his career, the French physician follows the same path. To acquire greater skill in diagnosis, and to excel his professional brethren in the accuracy and skill of his judgments, is the constant aim of his life. In hospital practice this point almost exclusively occupies his attention. What matters it to a Frenchman to know the best means of curing a disease? Does not pathological anatomy teach him that most diseases are incurable? All therapeutic attempts also are made with formulæ previously determined upon, without regard to the idiosyncrasy or individual constitution of the patients.

In Germany, it is unhappily quite otherwise; our hospitals are too often only places of retreat for old physicians, and in the eyes of the public it is anything but a recommendation to be attached to an infirmary. Hence the experience of the private practitioner is occupied with devising a number of trifling prescriptions, and with concocting medical theories which, from being based on insufficient foundations, are too often merely visionary and futile."

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"Another peculiarity of French practice is the custom of selecting a particular
'h of medicine or surgery for more especial study. Every part of the
n body has its peculiar doctor. In Germany we know nothing of this sort,

with the single exception of the study of mental disorders. There is abuse in the practice of both countries. The man who is generally well informed and who devotes his attention to any special branch of professional study may certainly render great services to humanity, and it is certain that it is to such practitioners that we are indebted for a number of valuable discoveries and improvements—lithotrity for example. But not a few distinguished practitioners of France, as MM. *Velpeau*, *Breschet*, *Lisfranc*, *Malgaigne*, *Rayer* and *Louis*, have shown us that special pursuits may be advantageously combined with the most general acquirements, and that a man, who is acquainted with every branch of professional science, is far superior to the small geniuses of small specialities."

. . . . . After some remarks on the very general ignorance among French physicians and surgeons of what is done in other countries, and the consequent conceit which they entertain of their national superiority, and after claiming for the Germans a decided superiority over their more lively neighbours in physiology, (compare the treatise of *Müller* with that of *Magendie*, and judge), Dr. *Wunderlich* offers some good observations on the attention which of late years has been paid by the French to medical statistics. While admitting that the researches of such men as MM. *Louis* and *Andral* cannot fail to be useful, he adds: " the numerical method cannot lead us to the solution of problems in pathology and in therapeutics; for, on the whole, the phenomena, which are comprehended under the same denomination, are too variable to admit of exact comparison, and if we wish to be guided by statistical data, we can never be certain that the patient under treatment does not belong to the number of exceptions rather than to the general rule. A single case attentively observed and well reported contributes more to the advancement of pathology than entire volumes full of figures. Again, in therapeutics the numerical method is of still more difficult and misleading application; and, when I hear of a French physician mercilessly (impitoyablement) dividing his typhoid patients into three classes, one set to be treated with bleeding *coup sur coup*, another with purgatives, and a third with low diet alone, I feel as if we had relapsed into those ages of barbarism when experiments were made upon condemned criminals.—Such a mode of proceeding seems to me like that of an entomologist who unfeelingly lets his poor victims die with a pin stuck through their bodies. Why should we abandon the beautiful path which *Bichat* so ably traced out—a plan at once rational and philosophic. It has been by following in his footsteps that French medicine, personified in *Laennec*, *Bayle*, *Corvisart*, *Broussais*, and *Cayol*, has made its most valuable acquisitions. Medical statistics are on the whole a delusive means of inquiry, which should be employed with extreme reserve, for fear of its misleading by its apparent exactitude those who are not acquainted with the laws of probability in physical and moral science.

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" While I willingly acknowledge the great talent for observation possessed by French practitioners, I cannot omit to reproach them with being seldom disinterested in their researches. They are always endeavouring to confirm some preconceived idea, or to sustain a theory which they have adopted. If they have gained a reputation in any special branch, or if they have acquired much dexterity in diagnosis of certain diseases, every other subject is lost sight of, and they can see nothing but their own favourite affairs: I may allude, for example, to M. *Piorry*, and his hobby-horse of auscultatory percussion, to say nothing of the pedantic nomenclature which he has attempted to introduce. Another defect in the French character is, that they rarely pronounce a prognosis until the advanced stage of a disease. M. *Bouillaud* seldom says anything of the danger of any case, till the patient is almost moribund; he regards himself as the representative of the physiological school of medicine, and yet seems to me not to understand aright the genuine principles of it. Moreover his incessant disputes

must surely prevent him applying his subtle mind to the higher questions of our science.

MM. *Louis* and *Andral*, although given to almost over-minute observations, very fortunately for science keep themselves free from theoretical abstractions. The latter has shown by his writings how well he has seized the spirit of physiological medicine; but on some occasions he is not quite faithful to its principles, and is apt to attach an exaggerated importance to morbid alterations. The former, although one of the founders of the numerical method of studying the phenomena, has avoided the evils which a less skilful physician would have fallen into; for, while basing his observations on pathological anatomy, he knows at the same time how to view the phenomena, in a physiological point of view.

M. *Magendie* follows out the plan which he has laid down for himself, that of investigating the laws of the system by direct experiment, with great assiduity and ability. He has purged physiology of not a few speculative errors with which it was defaced; but he attaches too much importance to the results of his vivisections, and vainly endeavours to explain the mysteries of living action on mechanical principles.

M. *Chomel* is the physician of the French metropolis who pleases most the generality of foreign physicians. He has a most winning lucidity and neatness of expression, disguising often many difficulties by the graceful clearness of his language. He is an *eclectic* both in his practice and in his reasonings, and is thereby led into not a few contradictions, which are sure to be laid hold of and exposed by his indefatigable opponent, M. *Bouillaud*.

M. *Cruveilhier* classes and analyses the morbid alterations of the body with singular sagacity, which is enhanced by his remarkable talent for observation. Although duly appreciating the importance of the study of pathology for the advancement of medicine and therapeutics, he generally avoids philosophising upon any subject.

MM. *Rayer*, *Martin*, *Solon*, *Gibert*, and *Ricord* have shown decided talent in investigating particular classes of diseases; but we must wait to find out whether they will exhibit as much skill in the study of more general inquiries."—*Revue Medicale*.

Remarks.—We have repeatedly, during the last six or seven years, expressed our opinion on the character of the modern French School of Medicine, and the readers, who have done us the honour of regularly perusing our comments on the medical literature of foreign countries, cannot have failed to notice the marked coincidence of sentiment between our observations and those now made public by Dr. *Wunderlich*. In the number of this Review for July, 1836, there is a somewhat lengthened article on the three sects of medical professors now existing in Paris—the Physiologists, the Hippocratists, and the Eclectics—with an illustration of the respective doctrines of each: we have reason to believe that our remarks were admitted by good judges to be thoroughly just and withal instructive. In the number for January, 1835, we contrasted the character of the French and the German physicians in the following passage, which may not inaptly be quoted here, as an appendage to Dr. *Wunderlich's* comments.

. . . . . "None can be more willing to bear testimony to the high merits and surpassing excellencies of the Germans in some respects than we are; for where do we meet with such unconquerable perseverance, such unwearied industry, and so ardent a love of science, for science' and not for fortune's sake, as among them?

It would seem that Nature is jealous of excessive kindness in the distribution of her intellectual favours, and that it is only on a very scanty few that she bestows the aggregate of them all. There is, as it were, a compensation-system adopted in the general award, so that, where one faculty or set of faculties is developed in an unusual degree, the superiority arising from their excellence is

counteracted by the deficiency or irregularity of some other faculty or faculties. For example, compare and contrast the mind of a Frenchman with that of a German—what a striking difference! the quickness, alacrity, and lighthearted promptitude, the hop-skipping, grasshopper-like restlessness, the past-forgetting, novelty-attracting, and consistency-despising character of the one; and the patient, plodding, laborious hardihood of the other, with his fact-collecting acquisitiveness, burden-oppressed memory, and slow, self-bewildering judgment, often led astray by his active shaping ideality, just as a traveller is by the twinkling of a lanthorn-fly in a dark night.

Both of these characters have their advantages and evils; be it our part to cull the former and reject the latter..... Whether our continental brethren are led to form as unfavourable an opinion of the merits of the British medical journals, as we reluctantly are compelled to form of theirs, we cannot tell; but, with all kindliness of feeling for them, and with an entire freedom from national partiality and prejudice, we hesitate not to affirm that there is more practical information, more substantial food for the mind, more, in short, of strong, shrewd, every-day good sense in one number of any of our established periodicals, than in the annual series of many of the continental."—*Rev.*

M. Andral on Alterations of the Blood, with Comments on the Old Humoral Pathology.

In the three last numbers of this Review we have given tolerably copious extracts from the lectures of this eminent pathologist on the changes, in the relative proportion of the different constituents of the blood, which are found to occur in different diseases. We have shown that, in some, it is the fibrine that is chiefly affected; in others, that it is the red globules; and in a third set, that it is the watery portion of the blood whose quantity is either abnormally increased or diminished. In the present article we shall consider the principal alterations observed in the blood by the admixture with it of foreign matters, whether these be generated in the system itself or introduced from without. We begin with—

The Bile.—Although much has been written on the diseases which the introduction of this secretion into the circulating fluids has been said to induce, we must remember that its actual existence in the blood has never been demonstrated by chemical analysis. One of its constituents, its colouring principle, has been observed in the serum, communicating to it a green or a deep yellow hue: if nitric acid be added to such serum, its precipitated albumen also is usually more or less decidedly green. M. *Martin Solon*, in his work on albuminuria, has related four cases of pleuro-pneumonia, complicated with bilious symptoms, in which a green precipitate was induced in the urine, when nitric acid was added to it. After the use of brisk purgatives for a few days, the green colouring matter disappeared.

The Urine.—The same may nearly be said of this secretion as of the bile. It has never been detected *en nature* in the blood; but one of its elements, the urea, has been. Every one knows the interesting experiments of MM. *Dumas & Prevost*, who, after extirpating the kidneys in some animals, discovered the presence of a notable quantity of the urea in the blood. Such being the case, we might *à priori* infer that, whenever these organs perform their functions imperfectly, the urea may gain admission into the circulating fluids. Now such has been found to be the case in the *morbus Brightii*, or granular degeneration of the renal parenchyma.

The Milk.—Every medical man has heard of the "milk-fever," and many an old practitioner in the present day will still tell you that it is altogether owing to the introduction of this secretion into the blood. The results of chemical analyses, however, demonstrate that this notion is quite groundless. Some writers indeed have asserted that they detected the essential principle of milk, its caseum, in the blood; but the assertion is not credited by the best authorities.

What has been called a milky state of the blood has not unfrequently been noticed; but it is a curious fact that this phenomenon has never been found in the case of a puerperal woman. It is the serum of the blood that exhibits the peculiar milky appearance, that has imposed upon so many writers. MM. *Treil*, *Caventou*, and *Christison* have analysed such blood; but on no occasion have they ever detected any of the elements of milk in it. The peculiar appearance depends on the admixture of a certain portion of fatty matter, which forms a sort of emulsion with the serum. Such at least is the opinion of Dr. *Christison*; M. *Caventou*, on the other hand, attributes it to the presence of albumen somehow altered and modified.

We shall now notice some of those foreign matters, the products of morbid action, which have been occasionally detected in the blood. By far the most important of these is *pus*. It has been found in cases of—1, inflammation of the parietes of the heart, arteries, and veins; 2, eruptive fevers, small-pox for example; 3, large abscesses, and then the pus penetrates by absorption, molecule by molecule; and, lastly, pus has been found in the centre of sanguineous coagula, which must have been formed during life.

When purulent matter gains admission into the blood, in some cases the two fluids become so blended together that the colour of the latter is more or less changed; while in other cases it is found to be deposited in the form of minute insulated drops floating in the mass of the blood. In the former condition, the pus seems to act as a poison; for the blood is always found to have lost its normal consistence, its solid portion being unusually soft, friable, and broken down into small clots, and its serum being a veritable ichor. When pus and fresh-drawn blood are mixed together, the latter is found not to coagulate; as we have on a former occasion shown to be the case. The same condition of the blood, its uncoagulability, is induced by the introduction of various poisonous substances, whether of a vegetable, animal, or aerial nature, into the system. How these agents act is not at all understood; but the fact of their doing so in the manner alluded to has been known from the earliest days of medical science. M. *Magendie* has for some years past been prosecuting a series of experiments to illustrate the effects of the introduction of foreign matters into the blood in the production of disease; and he tells us that he can, at will, induce all the symptoms of putrid fever in dogs, &c., by injecting into their veins a putrescent animal fluid. We doubt however whether this be the right mode of arriving at any satisfactory conclusions.

"I have now finished," says M. *Monneret*, the reporter, "the accurate description of those important researches undertaken by MM. *Andral* and *Gavarret*. The question as to the nature of fevers, a question that has been so long agitated, has now received, not indeed a complete solution, but a bright light, which cannot fail to render many points connected with their history much more clear than they have been hitherto. It can no longer be admitted that any one should now assimilate typhoid fever with a genuine inflammation or phlegmasiæ; the marked differences as to the state of the blood in these diseases establish a well-defined demarcation between them. The partisans of the Broussaian school have not been satisfied with M. *Andral's* analyses of the blood, because they are not in harmony with their doctrines; but this mode of objection cannot be received, and the only way to overthrow his statements is to go over the ground which he has so diligently traversed." . . . . . "The alteration of the blood takes place very early in eruptive and typhoid fevers, and

becomes more and more decided as the disease advances. We may confidently affirm that the change in the quality of the circulating fluid precedes, by a considerable period of time, any lesion of the intestinal mucous glands—the primary *point de depart* of all the phenomena of fevers, according to *Broussais* and his followers.

Let it be remembered that we do not mean to say that the change in the composition of the blood, although it is unquestionably anterior to the lesion of the Peyerian glands, is the *cause* of fevers; it is rather one of the earliest effects. We have not yet succeeded in detecting the primary link in the chain, and perhaps we never shall." (The doctrine of the old physicians, that the miasmatic poison of genuine fevers acts primarily on the nervous system, and subsequently on the blood, is probably the correct one.)

. . . . . "However important the study of the blood is, we must be careful not to separate it from the examination of the solids. *Bichat's* memorable saying, 'that every exclusive theory, whether of humorism or of solidism, is a pathological absurdity,' should never be forgotten. The great aim of the wise physician will be to strive to ascertain what share each of the two great elements of all organization takes in the production of diseases. Morbid anatomy has revealed a numerous catalogue of lesions of the solids; but as it has omitted to examine the changes of the fluids, the aid of analysis should now be called in to lead us to the truth." . . . . .

The Importance of the Microscope.—"The microscopic examination of the fluids and solids is a most valuable part of morbid anatomy, as well as of morbid chemistry. Already it has conferred great benefits on medical science, and still more important discoveries no doubt are yet to be made. The scalpel, the test-tube, and the microscope are the three equally necessary implements of pathological study,—and the right mode of using each of them should be well understood by every medical student. Hitherto the former has occupied an almost exclusive attention; but now a sounder method of examination has been introduced, and already has produced some valuable results."

The Old Humoral Pathology.—Before dismissing the subject of alterations of the blood, M. *Monneret* has very appropriately re-called to his reader's attention the opinions of one of the physicians of the last century, Dr. *Huxham*, on the influence which such alterations have in the production of fevers and other diseases, with the view of comparing them with the doctrines of the modern humoral pathology.

Huxham commences his account of fevers with a description of simple fever or synocha, which he says, is produced by an increase in the action of the solids on the fluids of the body, and by the subsequent re-action of these upon the former. He mentions three cases in which this morbid state may be induced. The *first* is that of a person who has taken any violent exercise; here the mere excess of the action and re-action of the solids and fluids on each other is sufficient to bring on the state of simple fever. In the *second* case, the quantity of the fluids is increased; as for example, by the sudden check of the perspiration, when this abundant: fever is the consequence, and nature makes an effort to get rid of the excess of the humors. The *third*, is that of a person who has drank a large quantity of wine or any other stimulating fluid: the excitement brings on a simple fever, which, however, will quickly yield to rest and abstinence.

Sometimes the blood is driven along with so much force that its globules penetrate into those minute vessels which do not usually admit them; hence the obstructions and congestions which so often occur in the course of some fevers. The chief remedial agent recommended by *Huxham* is bloodletting.

"which by diminishing the quantity of the red globules renders the moving force more feeble."

Now this idea, that the detraction of blood has the effect of diminishing the number of the red globules, has been found by the researches of MM. *Andral* and *Gavarret* to be quite correct; and it is curious to observe that the results of recent analyses are in perfect harmony with the assertions of the old pathologists,—assertions, too, based upon mere speculative theories. We have already stated that in plethora there is always an increase in the quantity of the red globules, and that bleeding is the appropriate remedy for this condition; seeing that it very quickly diminishes the quantity of these, and does not very sensibly affect the proportion of the fibrine for some time. At the period at which *Huxham* wrote, considerable attention was paid to the microscopic examination of the fluids, in consequence of the great interest that had been excited by the researches and discoveries of Leuwhoeck.

He admits three leading kinds of alteration of the blood; the two first are what he calls the constitutional states of the blood, and the third is that of its dissolution and putrefaction.

The first abnormal modification is that in which the red globules are increased in quantity, squeezed one against the other, and pressed too compact and dense; hence, he says, arises an over viscid state of the fluid, and an unusual tendency to coagulate and solidify, when drawn from the body; at the same time the increased rapidity of the circulation causes an unusual degree of friction of the blood against the sides of the vessels, causing a greater development of heat. When such is the case, there is always a disposition to synochal fever, and to obstructions in the minute vessels. He attributes the buffy coat to the heat of the fever, which tends to coagulate the serous portion of the blood, and to convert it into a jelly.

We need not say that the theoretical edifice constructed by the English physician with so much ingenuity crumbles down before the recent analyses of the blood: as to the notion of the greater friction of the globules against the walls causing a greater evolution of heat, we all know that it is quite conjectural, and far too mechanical to be true.

2. The second morbid constitution of the blood is characterised by the diminution in the quantity and in the density of the globules, and by an increase in that of the serum or watery portion. This condition is accompanied with pallor of the surface, great weakness, imperfection of the secretions, and a tendency to dropsical effusions. There is also a disposition to obstructions, not indeed of an inflammatory kind, as in the former case, but of a cold or torpid character from the diminished excitability of the vessels, in which the blood is apt to stagnate. Passive congestions too are liable to take place in this manner. The diminution in the proportion of the red globules, which *Huxham* had adopted on hypothetical grounds, has been demonstrated in the present day. This condition is observed in cases of anæmia, chlorosis, and of cachexia induced by long continued chronic diseases.

3. The dissolved state of the blood is observed in scurvy, which may be considered as the type of this alteration: hæmorrhage and adynamia are the chief phenomena indicative of its existence. The coagula of the blood are soft, loose, diffluent, and without any buffy coat. The serum separate only imperfectly from the coagulum. The blood drawn from persons affected with petechiæ and ecchymoses often forms a uniform semi-coagulated mass of a darker colour than usual, and passes readily to putrefaction. *Huxham* believed that the hæmorrhages are generally owing to the acrimony of the fluids destroying the contexture of the blood itself and corroding the minute capillary vessels. He says that, if we examine the blood while within the vessels, we may observe the globules elongated to enable them to traverse the small tubes. He thence infers that they

become broken up in their passage and that their debris enters readily the excretory vessels and transudes from their extremities. He thus accounts for the hæmorrhage which not unfrequently occurs from the bowels and urinary passages, as well as for the petechiæ and ecchymosed spots on the skin and some of the mucous surfaces. A dissolved state of the blood is not incompatible with the development of inflammation. *Huxham* describes particularly an epidemic pneumonia which was exceedingly fatal, especially among the inmates of prisons, ships, &c. and in which, although all the symptoms of the disease of the lungs were present, the blood drawn was soft and devoid of its normal consistence. The causes of this condition of the blood are, according to him, two fold. In some cases it is the result of spontaneous changes within the vessels, and in others it is induced by the introduction of poisonous matters into the system. Among these—the poisonous matters—he enumerates alkaline salts, muriate of ammonia (which has the effect of destroying or dissolving the blood-globules very rapidly), cherry-laurel water, mercury, salt and decayed provisions, the virus of serpents, &c. An elevated temperature has been considered by some to be sufficient to induce a dissolved state of the blood. *Boerhaave* tells us that be confined a dog in a heated stove, and that, in proportion as the animal sweated profusely, he observed a tendency to hæmorrhage from various parts of the body. However we may view this experiment, it will be admitted by all that fevers, in which the blood is in a thin uncoagulable state, are more common in hot than in cold and temperate climates.

As to the *intrinsic* causes, or those which are generated within the system itself, we may allude first to the admixture of purulent and other septic matters with the blood. The recent experiments of *Gaspard*, confirmed as they have been by subsequent researches, have most satisfactorily demonstrated the striking changes which the blood undergoes by the contamination of such matters. They seem to act more especially by modifying the relative proportions of the fibrine and the red globules, either by diminishing the quantity of the former or by increasing the quantity of the latter.

In taking leave of *Huxham*, we cannot avoid expressing our admiration at finding in his writings such a multitude of curious facts which, far from having been overthrown by the discoveries of modern analysis, have been confirmed in a very striking manner by them; and our admiration is the greater when we remember that it was only by reasoning and hypothesis that he was led to the enunciation of such important truths.—*Gazette Medicale.*

On Gangrenous Affections in the Puerperal State.

The mode in which gangrene takes place, and the causes which give rise to it, are often exceedingly obscure, except indeed in those cases in which it can be attributed to a direct obstruction of the circulation, as from closure or disease of the bloodvessels, or from mechanical constriction of any of the tissues of the body. Formerly the difficulty was imagined to be at once explained by summarily saying that gangrene is one of the consequences of inflammation. In the present day, on the contrary, some authors have gone so far to the opposite extreme as to think that, even in those cases where inflammation precedes the occurrence of the death of a part, this latter lesion is not the necessary effect of the former; but that it is connected with it accidentally, either from some obstruction to the course of the blood produced indeed by the inflammatory action, or from the introduction into the system of some foreign substance, such as air or some poisonous matter, or lastly, from a peculiar morbid state of the constitution itself.

Struck with the frequency with which gangrene takes place in the course of

puerperal diseases, M. *Reynaud*, in his recently published memoir on this subject, has brought together many cases in illustration, and after pointing out the fluctuating and ill-supported opinions of most writers—opinions which are almost always based on the doctrine of gangrene being the result of inflammation or of putridity—he groupes them in two classes:—1, gangrenous affections attributable to inflammation, and 2, those attributable to infection.

As to the cases reported in the first class, we might have expected to find that in them there had been present all, or at least the most prominent, signs of inflammatory action, developing itself gradually with greater or less rapidity, and ultimately terminating in gangrene; and yet this is not the case, if we may judge from the details narrated in the reports. Thus, in the first case, which is headed *puerperal peritonitis with gangrene of the abdominal parietes, peritoneum, and intestine*, the gangrene appeared, on the eleventh day after accouchement, on the surface of the abdomen, without having been preceded by any redness or swelling of the part; and it is not stated in the dissection of the patient, who died at the end of the third week, that the gangrenous portion of the abdominal parietes exhibited any traces of pre-existing inflammation.

The author narrates among the same groupe several cases where death occurred a few days after laborious delivery, and in which the internal surface of the uterus exhibited a gangrenous eschar of some lines in thickness. In these cases he attributes the lesion to the violent manœuvres which the body of the womb had sustained. But, when the uterus has been in part disorganized by the efforts which a difficult labour has rendered necessary, should we attribute the gangrene in such cases to inflammatory action? Is it not rather a result altogether mechanical, such as we observe to take place after severe contusions, in which inflammation has little or no part at all?

The author seems to have been himself aware how little the phenomena of inflammation can be supposed in such cases to have any thing to do with the development of gangrene; as he tells us that, in these circumstances, we must not forget to take into account the condition of the female system after labour, or, in other words, the puerperal state. On the whole, we are inclined to give it as our opinion, judging from the very cases which M. *Reynaud* has recorded in his first class, that inflammation has only a very doubtful part in the production of gangrene in puerperal women; at the same time we acknowledge that it often accompanies it, as if the two states, gangrene and inflammation, were the result of the same cause. This leads us to the consideration of the *second* set of cases, those of gangrenous affections induced by infection.

Puerperal diseases arising from infection differ from other diseases attributable to the same cause in this particular, that in the latter the infection usually proceeds from without, while in the former it is engendered in the bodies of the patients themselves: such is at least the opinion of the physicians of the French school, who entirely reject the doctrine of the transmission of puerperal affections by direct contact.

Whatever may be the origin of the infection, we must not the less keep in remembrance that, occasionally under the influence of certain changes in the fluids of the body, we observe gangrene taking place. It is true that if we try to push our inquiries further, and to discover what it is that constitutes infection, or how it acts in producing gangrene, we find ourselves quite at a loss; but it is one step, and that an important one, gained, to have ascertained that such cases are of too frequent occurrence to be regarded as merely the results of a simple coincidence.

In this point of view, the work of M. *Reynaud* is very interesting, although many of his observations are far from being satisfactory. What connexion, for example, can be found between the external veins filled with pus, and pulmonary gangrene, or between even inflammation of the lymphatic glands and gangrene of the uterus? None, certainly, as far as we can trace; and yet we do

not deny positively that these different morbid states may not be connected with each other. We are disposed to attach more importance to another source in explaining some of the facts adduced by M. *Reynaud*, in illustration of the tendency in the female system after delivery to gangrenous affections—we mean, the absorption of unhealthy secretions from the internal surface of the womb, and their introduction into the circulation, first of the uterus, and ultimately of the entire system.

The ingenious explanation given by M. *Genest* of the developement of pulmonary gangrene in cases of apoplexy of the lungs and of metastatic abscesses in their parenchymatous tissue, by the admixture of the external air with the blood or purulent matter, should certainly not be lost sight of in investigating the phenomena of certain puerperal diseases.

We are glad to observe, from a recent account of the different forms of puerperal fever observed at the Hôtel Dieu in Paris, during the year 1840, by M. *Bourdon*, that this intelligent physician has shaken off the trammels of the Broussaian school as to the proximate cause of the disease:

He says, "The fever exhibited always the same characteristic symptoms, with a peculiar aspect and march truly remarkable; while the lesions found on dissection were very different in different cases. Several of the lesions might be attributed to the inflammation, which, in this disease, terminates with extraordinary rapidity and ease in the formation of purulent matter in different parts of the body, such as the posterior parts of the limbs, the sub-peritoneal cellular tissue, &c.; but we could not regard certain other serious lesions, as the consequence of this peculiar kind of inflammation."

If, at the same time, we call to mind the fluid state of the blood in the heart and large bloodvessels, the softening of almost all the viscera, &c. are we not authorized to regard puerperal fever as a disease which is intimately connected with some change or poisoning of the blood?—*Gazette Medicale.*

Remarks.—With many of the preceding observations we heartily concur; and rejoice to find that, in France, as well as in our own country, some of the most practical writers of the day are beginning to pay attention to the state of the fluids in disease, more especially in malignant fevers. The doctrine that puerperal fever is in all, or even in most cases, an essentially inflammatory disease, and, therefore, that it requires an active antiphlogistic treatment, is fraught with the most pernicious consequences. The capital error that has been committed by most writers arises from the opinion, that this fever is at all times and in all seasons of the same *type*; whereas, in truth, perhaps no two epidemics of the disease are alike; just in the same manner as the epidemics of typhous and of the exanthematous fevers are observed to vary exceedingly in different years. We have too long forgotten to take into our consideration of such diseases the influence of which *Sydenham* and many of the older writers have denominated the *medical constitution of the season;* and yet what practical physician can have failed to observe the striking difference in the general character, as well as in the mortality, of febrile disorders in different seasons? Take, for example, scarlatina; is it not sometimes so mild as scarcely to require any medical treatment at all? whereas during another year it is attended with high phlogistic symptoms, and in a third it exhibits the type of malignancy and putridity.

The same holds good of puerperal fever. It is quite true that in some epidemics, and, we may add, in some cases during all epidemics, the disease is essentially inflammatory; but it is equally true that in other cases the inflammatory symptoms, if they occur at all, are only added to, and, as it were, grafted upon a morbid state of the system, which is dependent upon a vitiated state of the fluids, and a consequent serious lesion of the entire nervous system. Now this is very nearly the doctrine of the older school; and, however humiliating to modern pride it may be to find that with all our improved methods of research

we are in a great measure coming back to the long obsolete opinions and practice of last century, it is only wise and right that we should do so when convinced of our errors.

We cannot close these few remarks without recommending to the especial notice of our readers the admirable Treatise on Puerperal Fever by Dr. *Ferguson*, published two years ago, and of which a copious review was given in our number for April, 1839. One very short extract will enable them to judge of the spirit of its contents.

"The three following propositions embody my views of the source and nature of purperal fever.

1. The phenomena of puerperal fever originate in a vitiation of the fluids.
2. The causes, which are capable of vitiating the fluids, are particularly rife after child-birth.
3. The various forms of puerperal fever depend on this one cause, and may readily be deduced from it."—(*Rev.*)

CASES OF GLANDERS, WITH REMARKS.

Dr. *Delaharpe*, physician of the hospital at Lausanne, has published in the Revue Medicale of Paris a memoir on this curious pathological subject. We shall first briefly report two cases which he adduces, and then extract some of his most interesting remarks.

An old pedlar was admitted, on the 17th of August, 1837, in the following state. There was extreme prostration of all the vital powers, and a tendency to delirium, although the patient, when spoken to, answered questions with tolerable accuracy. His face was puffy and of a purplish red colour; the left side of the nose, and the adjoining part of the face, were covered with numerous pustules of different sizes, each one being surrounded with a livid areola, and filled with pus. The largest of these pustules had an indurated base, and resembled a good deal the pustules of variola in suppuration. The left eye was completely closed by the swelling of the eyelids; but, on opening these, the conjunctiva was found to be in state of *chemosis*. There was a discharge of puriform mucus from the nostrils. On different parts of the surface, but chiefly on the extremities, pustules, similar to those now described, were scattered up and down; and at the side of these pustules were observed patches of a livid hue, and also rounded soft subcutaneous tumors, some of which were of the colour of the surrounding skin, and others were slightly inflamed. The largest of these tumors gave a distinct sense of fluctuation under the finger; several of them looked like large warts, or rather like some of the forms of *nævi*. On the left buttock was a large gangrenous ulcer, which discharged a fetid ichor; the scrotum was œdematous, of a blueish colour, and exhibited several ulcerated pustules on its surface; its epidermis had become detached in some points, apparently by the friction of the parts.

The breathing was hurried, and incommoded a good deal by the obstructed state of the nostrils; the pulse was rather quick but full; the lips and teeth were covered with a dark coating; the tongue was red at its tip, but furred behind. This patient died on the following day in a comatose state.*

Dissection.—On removing the integuments of the face, a multitude of small abscesses were observed, varying in dimensions from the size of a small nut to

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* No satisfactory information could be obtained whether this man had ever anything to do with glandered horses. It was found, however, that he had often been in the habit of sleeping in stables.

that of a millet-seed; all of them contained a yellow thick pus. The left malar bone was denuded at one point, where a pustule was situated. The nasal fossa on this side exhibited large reddish fungosities, which were traced upwards to the ethmoidal cells, and backwards to the pharynx; the nasal passage was completely obstructed, and the natural tissues were with difficulty recognizable amidst the fungous mass. On detaching the tumefied mucous membrane, a multitude of minute pustules were brought into view. The posterior edge of the velum palati, at the junction of the two pillars, was found to contain a small abscess full of matter. In the right nasal fossa, the inferior spongy bone exhibited a fungous patch similar to what, as we have described, was observed in the left one, but only much smaller.

There was considerable subarachnoid effusion on the convex surface of the *brain;* but the encephalon did not present any other decidedly morbid appearance. The lower half of the *trachea* was inflamed, swollen, and its mucous membrane a good deal softened. Here and there were observed minute abscesses, similar to those found in the nasal fossæ. The *lungs* were healthy throughout, with the exception of a minute abscess in the upper part of the right lobe. The heart was normal; so also was the liver; the spleen was friable and softened.

Case 2.—A postillion, 33 years of age, was admitted on the 10th of November, 1835, into the hospital at Lausanne, in consequence of severe pains in the lower limbs, and more especially in the right knee; there were also several painful rounded tumors on different parts of the limbs. One of these, situated beneath the right knee, was of the size of a large egg, and communicated to the finger a distinct sense of fluctuation. A similar tumor, but of smaller dimensions, existed on each arm. There was slight hydarthrosis of the left knee-joint. The patient was put on a nutritious diet, and he was ordered to drink a decoction of mezereum and other woods. One of the tumors on the left leg was punctured with the lancet; but nothing save a little dark blood was discharged from the wound. The other tumors were kept wetted with a decoction of oak-bark, to which some spirit of wine had been added. For three months this patient continued in a weak and ailing state; but, by persevering in the use of tonics, wine, and a generous diet, his health and strength began to be so much improved that he was able to leave the hospital in the following March; he died however during the course of the Summer of marasmus.*

The disease of glanders is communicable to the human subject by atmospheric infection as well as by the direct inoculation of the diseased matter by a wound. The observations of Dr. *Farozzi* of Milan in *Omodei*'s journal for August, 1822, prove this. *Hufeland* seems to have been the first to pronounce that the disease in the horse is communicable to man: in a note to a case of doubtful character reported in his journal for March, 1822, he exclaims, *der Rotz der Pferde steckt Menschen an*, (the glanders of the horse infects men!) Veterinary surgeons had long known that wounds of the fingers, if infected with the nasal discharge of sickly horses, are apt to assume a most unhealthy character; but they do not

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* It is more than doubtful whether we can regard this case as one of glanders in the human subject, or *equinia*, as it has been denominated by some writers. That there was that peculiar cachectic state of the system, in which there is a tendency to the formation of subcutaneous abscesses, is manifest; but it does not appear that the disease was induced by any infection from the horse. It seems to us to be taking too limited a view of this and similar cases to refer them all to such a morbific cause. There is evidently a striking analogy between cases of this sort and the ecthyma cachecticum described by *Willan* and *Bateman*. —*Rev.*

seem to have been aware that the system under such circumstances is liable to be poisoned by the introduction of a virulent matter into the circulation. This fact, which has been clearly established of late years, cannot now be disputed by any one; although it is probable that some cases, which have been recorded as examples of glanders in the human subject, are of questionable authority. The following one well deserves to be generally known, and we shall therefore give its particulars at some length.

Case 3.—A man, 42 years of age, who had had charge of a glandered horse for a length of time, happened, one day before dressing the animal, to prick his finger; a few days subsequently the puncture became inflamed and painful, and the whole hand was swollen. M. *Thierry* was consulted; he ordered poultices to the finger and cooling medicines to be taken inwardly. In the course of a week, as a distinct feeling of fluctuation could be perceived in the site of the wound, a deep incision was made there, and gave issue to a quantity of purulent matter mixed with a bloody serosity. This was on the 14th of September; on the 22nd a painful swelling formed on the middle of the fore-arm; this gradually proceeded to suppuration, and, when opened with the lancet, gave vent to a large quantity of unhealthy pus. In the course of another week a second abscess formed nearer the wrist, and was treated in a similar manner. By the use of a generous diet, the patient seemed to be recovering his health and strength; but the amendment was only temporary. In the beginning of November a new abscess made its appearance on the upper part of the same fore-arm, and another about the middle of the arm of the same side; both were exceedingly painful, and the almost constant suffering of the patient brought on a feverish irritation of the whole system.

Fatigued with almost continued suffering for three months, and weakened and emaciated by the profuse suppuration from the abscesses, the patient now applied to M. *Amussat*, but without explaining to him the probable cause of his cachectic condition. This eminent surgeon suspected a scrofulous taint of the system, and prescribed accordingly. Benefit was derived from the treatment recommended, and by the 20th of December several of the abscesses had cicatrized. On the 4th of January, the two tumors on the arm and fore-arm suddenly vanished, but in the course of the same day a painful swelling made its appearance on the outer part of the right thigh; the system at the same time was effected with feverish chills and heats. This swelling gradually increased in size, and became more prominent and shining on the surface: after the ineffectual use of discutient remedies a blister was applied in the hope of dispersing it, but without any good effects. Although it had now existed for upwards of six weeks, no fluctuation could be detected, nor was this distinct until the first week of April. An incision being made into the most prominent part, a large quantity of thick and dark-coloured blood flowed out, but without the admixture of a single drop of purulent matter. This was a most unpleasant circumstance, and naturally suggested the possibility of the presence of an aneurismal sac; but, as there had not been any pulsation in the tumor, and as the discharge gradually ceased after some time, the fears of the medical attendant subsided.

A probe introduced into the wound could be made to pass for nearly eight inches in a direction right inwards and downwards. M. *Breschet* was now consulted; after listening to the details of the case, he at once pronounced that it was one of constitutional infection induced by the poisoning of the wound on the finger from the glandered horse. The venous or lymphatic system, participating in the general infection, might probably by the channel of the morbid virus being deposited in different parts, and thus exciting erratic suppurative action. The patient was taken into the Hôtel Dieu on the 4th of May, and there M. *Breschet* made an incision through the integuments along the entire length

of the swelling, to the extent of nearly eight inches. On separating the edges of the wound, it was now found that the sanguineous collection, that had been discharged five weeks before, was situated in part on the outside and in part beneath the aponeurosis of the thigh. M. *Breschet* directed that the internal surface of the tumor should be wetted daily with a solution of the ioduret of potassium. A day or two after the patient's admission into the hospital, he experienced a severe pain about the middle of the front of the other thigh, where an inflammatory swelling, similar to the one already described, gradually was developed. It was laid open on the 30th of June; but this was scarcely done, before another painful tumor made its appearance below the knee of the same side, and it was necessary to make an incision into it on the 7th of July. It was gratifying however to observe that the immense sac on the left thigh had been gradually cicatrizing, and every thing on the whole was going on pretty well until the 15th of this month (July), when the left ankle began to be swollen, red, and painful, and the general strength of the system became greatly debilitated. At the same time a cough, night sweats, &c. made their appearance; and diarrhœa soon followed. Towards the end of August, the right eye-lid first, and subsequently the forehead and the entire scalp, became affected with an œdematous swelling, and, a few days afterwards, a dark gangrenous spot was observed about the middle of this puffiness: this spot gradually increased, extending over the whole of the upper part of the face and entirely covering the nose; the epidermis was detached in several places, and a gelatinous bloody fluid exuded from under it. There were also at the same time a copious discharge of viscid fœtid matter from the nostrils; delirium came on during the night; and a number of livid pustules made their appearance upon the surface of the chest and extremities. On the 6th of September the patient died.

The *dissection* was performed with the greatest care in in the presence of MM. *Breschet*, *Amussat*, and many other medical men.

Without mentioning the phenomena observed in the various external abscesses, which are very minutely reported by the narrator, we proceed at once to describe the state of the nasal passages. The whole of their mucous surface was coated with a gelatiniform sanies; when this was removed, the surface appeared irregularly furrowed by ecchymoses which occupied more than half its extent, and in which could be observed several minute pustules, analogous, except in size, with those on the surface of the body: with the aid of the microscope it was found that some of them exhibited small circular points of ulceration.

The *lungs* exhibited numerous circumscribed points of lobular inflammation; the state of the heart is not mentioned.

It deserves to be mentioned that the horse, from which the patient, it is believed, caught the complaint, was examined by a distinguished veterinary surgeon, M. *Bouley*, and pronounced by him to be affected with "morve chronique dite tuberculeuse."

Remarks.—The most remarkable phenomenon in the preceding case was certainly the successive transference of the matter which engendered the disease upon a point sometimes remote from, and at other times more near to, the place where it had at first fixed its seat: this sort of metastasis occurred no fewer than ten times in the course of one year. There appeared a swelling, which was painful for the first few days, but without exhibiting a decided inflammatory aspect; its progress was slow; and, when it was opened with the knife a quantity of matter, sometimes of a healthy character and sometimes more or less blended with blood, was discharged, and this discharge continued for some time. Then all on a sudden it ceased entirely, and almost invariably a new swelling made its appearance in some other part.

Another peculiarity of this case is that there were none of the symptoms of acute glanders until near its close; then the eruption of pustules on the body,

the discharge of fœtid mucus from the nostrils, and the development of acute irritative fever, were not to be mistaken. But it is to be remembered that the disease is not unfrequently observed to follow nearly a similar course in the horse; the health of the animal may be for a long time but little, if at all, affected; and, were it not for the oozing of the viscid mucus from the nostrils, it might be pronounced to be perfectly sound. Suddenly, however, after this local complaint has continued for some time, the symptoms of the acute form of the disease make their appearance and the animal is quickly carried off.—*Revue Medicale.*

MOST OBSTINATE HICCUP CURED WITH QUININE.

A countryman was seized, while recovering from an attack of ague, with a convulsive hiccup which recurred every few moments. A variety of antispasmodic remedies, such as ether, valerian, musk, asæfœtida, opium, &c. were tried, but without relieving the troublesome symptom: blisters, also, as well as other cutaneous irritants, were applied with equal unsuccess. For nine days the hiccup continued with but little intermission, and this was only at irregular intervals for about a quarter of an hour at most.

Suspecting that, although all the other symptoms of the ague had ceased for some time, this convulsive affection of the stomach might somehow be connected with it, the medical attendant administered a large dose of quinine in an enema. A few hours after it was given, the hiccup ceased almost entirely; but it again returned, as violent as before, next day. The quinine was again ordered, and with equally happy effects; and by persevering in its use for a few days, the symptoms did not return.—*Journal des Connois. Med. Chir.*

WALNUT-LEAF TEA, A GOOD REMEDY IN SCROFULOUS COMPLAINTS.

Professor *Negrier* of Angers, a respectable authority, has for some years past been trying the effects of an infusion of the leaves of the walnut-tree in a variety of scrofulous maladies, and the results of his experience have led him to form a most favourable opinion of it as an antiscrofulous remedy.

He reports a great number of cases of disease of the lymphatics, with or without ulceration of the integuments, of scrofulous ophthalmia, of affections of the bones and periosteum, &c. in which decided and very marked benefit was obtained from a course of this simply prepared tea. A handful of the fresh or slightly dried leaves may be added to a pint of boiling water, and of this infusion a small cupfull may be taken twice a day. An extract may also be prepared by evaporation, and this Dr. *Negrier* recommends to be given at the same time, either in the form of pills or of a thick syrup. A strong decoction of the leaves he has used with excellent effects as an application to scrofulous ulcers.—*Archives Generales.*

Remark.—We know nothing practically of this remedy, but somehow or other we feel inclined to predict that it is one deserving notice, and that it will be found useful in some cases of lymphatic and cutaneous disease. Whenever we pass a walnut-tree, and smell the peculiar odour which it gives out, the idea always occurs to us that it is not destitute of tolerably active medicinal properties. Moreover, as a general remark, scrofulous diseases are, on the whole, much more benefitted by vegetable remedies than by those of a metalic nature, except, perhaps, steel; and this we know is more *kin*, so to speak, to the body than any other of its class.—(*Rev.*)

M. CRUVEILHIER ON THE SOUNDS OF THE HEART: EXTRAORDINARY CASE OF CONGENITAL MALFORMATION OF THIS ORGAN.

A case, unique, we believe, in the annals of medicine, recently occurred in Paris; and, as it afforded a most favourable opportunity of examining the sounds and movements of the heart, it is most fortunate that so accurate an observer as M. *Cruveilhier* has detailed the particulars at great length. He was called to see the infant, a few hours after birth, in whom the following extraordinary malformation of the chest existed. The heart, which was vigorous and acted strongly, was situated fairly out of the chest, from which it had passed through a circular opening in the upper part of the sternum; this opening had the appearance of being moulded upon its pedicle, so to speak, formed by the large vessels which proceeded from and towards it. The heart was thus as completely exposed, as if the sternum had been removed and the pericardium opened. It was of a pale colour, as if it was still covered wiih its fibrous envelope, and its surface was dry. It moved about by any change in the position of the body; thus, when the infant was held up, the heart, obeying its natural gravity, fell down in front of the sternum; and then the vessels, serving as the pedicle of the swelling, were dragged somewhat lower than they had been before, so as to hang in front of the perforation. Whenever this was done, the movements of the heart were hurried, and the child began to scream, evidently from the uneasiness experienced; for no sooner was it again placed on its back, than it seemed to be easier and ceased crying. The axis of the heart was nearly vertical, and not oblique as in the healthy state. Merely touching it, or even gently pressing it with the finger, did not disturb its action, nor appear to distress the child. The ventricular portion of the organ was essentially formed by the left ventricle; the right one looked as a mere appendix, and did not contribute to the formation of the apex. The auricles were very imperfectly developed; they seemed like small wings at the basis of the heart, jutting out a little on each side. To see them distinctly, it was necessary to turn the heart over; but doing this always caused the infant to scream out.

Movements of the Heart.—1. The contraction of the two ventricles was simultaneous and isochronous; so likewise was that of the two auricles.

2. The contraction of the ventricles coincided with the dilatation of the auricles, and with the propulsion of the blood into the arteries. The dilatation of the ventricles coincided with the contraction of the auricles, and with the *reserrement* of the arteries.

3. There were only two periods in the movements of the heart; no period of repose, as described by most writers, could be perceived. The period of contraction immediately followed that of dilatation, and vice versâ.

4. As to the question which has been raised respecting the order in the succession of the heart's movements—viz. whether the contraction of the auricles precedes that of the ventricles, as most authors believe, or the reverse—it seems to me to be nonsense; the alternate contraction and dilatation of the auricles result from two opposed forces always in action, which succeed each other in an invariable succession, after the manner of the two alternate movements of an adjusted pendulum.

5. The duration of the contraction of the ventricles is double that of their dilatation. If we divide into three equal periods the entire duration of the ventricular systole and diastole, we find that two belong to the former and only one to the latter act. The period of repose, spoken of by most writers, has been taken for the first period of the systole. The same remark applies to the movements of the auricles; their contraction occupies twice the time of their dilatation.

"which by diminishing the quantity of the red globules renders the moving force more feeble."

Now this idea, that the detraction of blood has the effect of diminishing the number of the red globules, has been found by the researches of MM. *Andral* and *Gavarret* to be quite correct; and it is curious to observe that the results of recent analyses are in perfect harmony with the assertions of the old pathologists,—assertions, too, based upon mere speculative theories. We have already stated that in plethora there is always an increase in the quantity of the red globules, and that bleeding is the appropriate remedy for this condition; seeing that it very quickly diminishes the quantity of these, and does not very sensibly affect the proportion of the fibrine for some time. At the period at which *Huxham* wrote, considerable attention was paid to the microscopic examination of the fluids, in consequence of the great interest that had been excited by the researches and discoveries of Leuwhoeck.

He admits three leading kinds of alteration of the blood; the two first are what he calls the constitutional states of the blood, and the third is that of its dissolution and putrefaction.

The first abnormal modification is that in which the red globules are increased in quantity, squeezed one against the other, and pressed too compact and dense; hence, he says, arises an over viscid state of the fluid, and an unusual tendency to coagulate and solidify, when drawn from the body; at the same time the increased rapidity of the circulation causes an unusual degree of friction of the blood against the sides of the vessels, causing a greater development of heat. When such is the case, there is always a disposition to synochal fever, and to obstructions in the minute vessels. He attributes the buffy coat to the heat of the fever, which tends to coagulate the serous portion of the blood, and to convert it into a jelly.

We need not say that the theoretical edifice constructed by the English physician with so much ingenuity crumbles down before the recent analyses of the blood: as to the notion of the greater friction of the globules against the walls causing a greater evolution of heat, we all know that it is quite conjectural, and far too mechanical to be true.

2. The second morbid constitution of the blood is characterised by the diminution in the quantity and in the density of the globules, and by an increase in that of the serum or watery portion. This condition is accompanied with pallor of the surface, great weakness, imperfection of the secretions, and a tendency to dropsical effusions. There is also a disposition to obstructions, not indeed of an inflammatory kind, as in the former case, but of a cold or torpid character from the diminished excitability of the vessels, in which the blood is apt to stagnate. Passive congestions too are liable to take place in this manner. The diminution in the proportion of the red globules, which *Huxham* had adopted on hypothetical grounds, has been demonstrated in the present day. This condition is observed in cases of anæmia, chlorosis, and of cachexia induced by long continued chronic diseases.

3. The dissolved state of the blood is observed in scurvy, which may be considered as the type of this alteration: hæmorrhage and adynamia are the chief phenomena indicative of its existence. The coagula of the blood are soft, loose, diffluent, and without any buffy coat. The serum separate only imperfectly from the coagulum. The blood drawn from persons affected with petechiæ and ecchymoses often forms a uniform semi-coagulated mass of a darker colour than usual, and passes readily to putrefaction. *Huxham* believed that the hæmorrhages are generally owing to the acrimony of the fluids destroying the contexture of the blood itself and corroding the minute capillary vessels. He says that, if we examine the blood while within the vessels, we may observe the globules elongated to enable them to traverse the small tubes. He thence infers that they

become broken up in their passage and that their debris enters readily the excretory vessels and transudes from their extremities. He thus accounts for the hæmorrhage which not unfrequently occurs from the bowels and urinary passages, as well as for the petechiæ and ecchymosed spots on the skin and some of the mucous surfaces. A dissolved state of the blood is not incompatible with the development of inflammation. *Huxham* describes particularly an epidemic pneumonia which was exceedingly fatal, especially among the inmates of prisons, ships, &c. and in which, although all the symptoms of the disease of the lungs were present, the blood drawn was soft and devoid of its normal consistence. The causes of this condition of the blood are, according to him, two fold. In some cases it is the result of spontaneous changes within the vessels, and in others it is induced by the introduction of poisonous matters into the system. Among these—the poisonous matters—he enumerates alkaline salts, muriate of ammonia (which has the effect of destroying or dissolving the blood-globules very rapidly), cherry-laurel water, mercury, salt and decayed provisions, the virus of serpents, &c. An elevated temperature has been considered by some to be sufficient to induce a dissolved state of the blood. *Boerhaave* tells us that be confined a dog in a heated stove, and that, in proportion as the animal sweated profusely, he observed a tendency to hæmorrhage from various parts of the body. However we may view this experiment, it will be admitted by all that fevers, in which the blood is in a thin uncoagulable state, are more common in hot than in cold and temperate climates.

As to the *intrinsic* causes, or those which are generated within the system itself, we may allude first to the admixture of purulent and other septic matters with the blood. The recent experiments of *Gaspard*, confirmed as they have been by subsequent researches, have most satisfactorily demonstrated the striking changes which the blood undergoes by the contamination of such matters. They seem to act more especially by modifying the relative proportions of the fibrine and the red globules, either by diminishing the quantity of the former or by increasing the quantity of the latter.

In taking leave of *Huxham*, we cannot avoid expressing our admiration at finding in his writings such a multitude of curious facts which, far from having been overthrown by the discoveries of modern analysis, have been confirmed in a very striking manner by them; and our admiration is the greater when we remember that it was only by reasoning and hypothesis that he was led to the enunciation of such important truths.—*Gazette Medicale.*

On Gangrenous Affections in the Puerperal State.

The mode in which gangrene takes place, and the causes which give rise to it, are often exceedingly obscure, except indeed in those cases in which it can be attributed to a direct obstruction of the circulation, as from closure or disease of the bloodvessels, or from mechanical constriction of any of the tissues of the body. Formerly the difficulty was imagined to be at once explained by summarily saying that gangrene is one of the consequences of inflammation. In the present day, on the contrary, some authors have gone so far to the opposite extreme as to think that, even in those cases where inflammation precedes the occurrence of the death of a part, this latter lesion is not the necessary effect of the former; but that it is connected with it accidentally, either from some obstruction to the course of the blood produced indeed by the inflammatory action, or from the introduction into the system of some foreign substance, such as air or some poisonous matter, or lastly, from a peculiar morbid state of the constitution itself.

Struck with the frequency with which gangrene takes place in the course of

puerperal diseases, M. *Reynaud*, in his recently published memoir on this subject, has brought together many cases in illustration, and after pointing out the fluctuating and ill-supported opinions of most writers—opinions which are almost always based on the doctrine of gangrene being the result of inflammation or of putridity—he groupes them in two classes:—1, gangrenous affections attributable to inflammation, and 2, those attributable to infection.

As to the cases reported in the first class, we might have expected to find that in them there had been present all, or at least the most prominent, signs of inflammatory action, developing itself gradually with greater or less rapidity, and ultimately terminating in gangrene; and yet this is not the case, if we may judge from the details narrated in the reports. Thus, in the first case, which is headed *puerperal peritonitis with gangrene of the abdominal parietes, peritoneum, and intestine*, the gangrene appeared, on the eleventh day after accouchement, on the surface of the abdomen, without having been preceded by any redness or swelling of the part; and it is not stated in the dissection of the patient, who died at the end of the third week, that the gangrenous portion of the abdominal parietes exhibited any traces of pre-existing inflammation.

The author narrates among the same groupe several cases where death occurred a few days after laborious delivery, and in which the internal surface of the uterus exhibited a gangrenous eschar of some lines in thickness. In these cases he attributes the lesion to the violent manœuvres which the body of the womb had sustained. But, when the uterus has been in part disorganized by the efforts which a difficult labour has rendered necessary, should we attribute the gangrene in such cases to inflammatory action? Is it not rather a result altogether mechanical, such as we observe to take place after severe contusions, in which inflammation has little or no part at all?

The author seems to have been himself aware how little the phenomena of inflammation can be supposed in such cases to have any thing to do with the development of gangrene; as he tells us that, in these circumstances, we must not forget to take into account the condition of the female system after labour, or, in other words, the puerperal state. On the whole, we are inclined to give it as our opinion, judging from the very cases which M. *Reynaud* has recorded in his first class, that inflammation has only a very doubtful part in the production of gangrene in puerperal women; at the same time we acknowledge that it often accompanies it, as if the two states, gangrene and inflammation, were the result of the same cause. This leads us to the consideration of the *second* set of cases, those of gangrenous affections induced by infection.

Puerperal diseases arising from infection differ from other diseases attributable to the same cause in this particular, that in the latter the infection usually proceeds from without, while in the former it is engendered in the bodies of the patients themselves: such is at least the opinion of the physicians of the French school, who entirely reject the doctrine of the transmission of puerperal affections by direct contact.

Whatever may be the origin of the infection, we must not the less keep in remembrance that, occasionally under the influence of certain changes in the fluids of the body, we observe gangrene taking place. It is true that if we try to push our inquiries further, and to discover what it is that constitutes infection, or how it acts in producing gangrene, we find ourselves quite at a loss; but it is one step, and that an important one, gained, to have ascertained that such cases are of too frequent occurrence to be regarded as merely the results of a simple coincidence.

In this point of view, the work of M. *Reynaud* is very interesting, although many of his observations are far from being satisfactory. What connexion, for example, can be found between the external veins filled with pus, and pulmonary gangrene, or between even inflammation of the lymphatic glands and gangrene of the uterus? None, certainly, as far as we can trace; and yet we do

not deny positively that these different morbid states may not be connected with each other. We are disposed to attach more importance to another source in explaining some of the facts adduced by M. *Reynaud*, in illustration of the tendency in the female system after delivery to gangrenous affections—we mean, the absorption of unhealthy secretions from the internal surface of the womb, and their introduction into the circulation, first of the uterus, and ultimately of the entire system.

The ingenious explanation given by M. *Genest* of the developement of pulmonary gangrene in cases of apoplexy of the lungs and of metastatic abscesses in their parenchymatous tissue, by the admixture of the external air with the blood or purulent matter, should certainly not be lost sight of in investigating the phenomena of certain puerperal diseases.

We are glad to observe, from a recent account of the different forms of puerperal fever observed at the Hôtel Dieu in Paris, during the year 1840, by M. *Bourdon*, that this intelligent physician has shaken off the trammels of the Broussaian school as to the proximate cause of the disease:

He says, "The fever exhibited always the same characteristic symptoms, with a peculiar aspect and march truly remarkable; while the lesions found on dissection were very different in different cases. Several of the lesions might be attributed to the inflammation, which, in this disease, terminates with extraordinary rapidity and ease in the formation of purulent matter in different parts of the body, such as the posterior parts of the limbs, the sub-peritoneal cellular tissue, &c.; but we could not regard certain other serious lesions, as the consequence of this peculiar kind of inflammation."

If, at the same time, we call to mind the fluid state of the blood in the heart and large bloodvessels, the softening of almost all the viscera, &c. are we not authorized to regard puerperal fever as a disease which is intimately connected with some change or poisoning of the blood?—*Gazette Medicale.*

Remarks.—With many of the preceding observations we heartily concur; and rejoice to find that, in France, as well as in our own country, some of the most practical writers of the day are beginning to pay attention to the state of the fluids in disease, more especially in malignant fevers. The doctrine that puerperal fever is in all, or even in most cases, an essentially inflammatory disease, and, therefore, that it requires an active antiphlogistic treatment, is fraught with the most pernicious consequences. The capital error that has been committed by most writers arises from the opinion, that this fever is at all times and in all seasons of the same *type*; whereas, in truth, perhaps no two epidemics of the disease are alike; just in the same manner as the epidemics of typhous and of the exanthematous fevers are observed to vary exceedingly in different years. We have too long forgotten to take into our consideration of such diseases the influence of which *Sydenham* and many of the older writers have denominated the *medical constitution of the season;* and yet what practical physician can have failed to observe the striking difference in the general character, as well as in the mortality, of febrile disorders in different seasons? Take, for example, scarlatina; is it not sometimes so mild as scarcely to require any medical treatment at all? whereas during another year it is attended with high phlogistic symptoms, and in a third it exhibits the type of malignancy and putridity.

The same holds good of puerperal fever. It is quite true that in some epidemics, and, we may add, in some cases during all epidemics, the disease is essentially inflammatory; but it is equally true that in other cases the inflammatory symptoms, if they occur at all, are only added to, and, as it were, grafted upon a morbid state of the system, which is dependent upon a vitiated state of the fluids, and a consequent serious lesion of the entire nervous system. Now this is very nearly the doctrine of the older school; and, however humiliating to modern pride it may be to find that with all our improved methods of research

we are in a great measure coming back to the long obsolete opinions and practice of last century, it is only wise and right that we should do so when convinced of our errors.

We cannot close these few remarks without recommending to the especial notice of our readers the admirable Treatise on Puerperal Fever by Dr. *Ferguson*, published two years ago, and of which a copious review was given in our number for April, 1839. One very short extract will enable them to judge of the spirit of its contents.

"The three following propositions embody my views of the source and nature of purperal fever.

1. The phenomena of puerperal fever originate in a vitiation of the fluids.
2. The causes, which are capable of vitiating the fluids, are particularly rife after child-birth.
3. The various forms of puerperal fever depend on this one cause, and may readily be deduced from it."—(*Rev.*)

CASES OF GLANDERS, WITH REMARKS.

Dr. *Delaharpe*, physician of the hospital at Lausanne, has published in the Revue Medicale of Paris a memoir on this curious pathological subject. We shall first briefly report two cases which he adduces, and then extract some of his most interesting remarks.

An old pedlar was admitted, on the 17th of August, 1837, in the following state. There was extreme prostration of all the vital powers, and a tendency to delirium, although the patient, when spoken to, answered questions with tolerable accuracy. His face was puffy and of a purplish red colour; the left side of the nose, and the adjoining part of the face, were covered with numerous pustules of different sizes, each one being surrounded with a livid areola, and filled with pus. The largest of these pustules had an indurated base, and resembled a good deal the pustules of variola in suppuration. The left eye was completely closed by the swelling of the eyelids; but, on opening these, the conjunctiva was found to be in state of *chemosis*. There was a discharge of puriform mucus from the nostrils. On different parts of the surface, but chiefly on the extremities, pustules, similar to those now described, were scattered up and down; and at the side of these pustules were observed patches of a livid hue, and also rounded soft subcutaneous tumors, some of which were of the colour of the surrounding skin, and others were slightly inflamed. The largest of these tumors gave a distinct sense of fluctuation under the finger; several of them looked like large warts, or rather like some of the forms of *nævi*. On the left buttock was a large gangrenous ulcer, which discharged a fetid ichor; the scrotum was œdematous, of a blueish colour, and exhibited several ulcerated pustules on its surface; its epidermis had become detached in some points, apparently by the friction of the parts.

The breathing was hurried, and incommoded a good deal by the obstructed state of the nostrils; the pulse was rather quick but full; the lips and teeth were covered with a dark coating; the tongue was red at its tip, but furred behind. This patient died on the following day in a comatose state.*

Dissection.—On removing the integuments of the face, a multitude of small abscesses were observed, varying in dimensions from the size of a small nut to

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* No satisfactory information could be obtained whether this man had ever anything to do with glandered horses. It was found, however, that he had often been in the habit of sleeping in stables.

that of a millet-seed; all of them contained a yellow thick pus. The left malar bone was denuded at one point, where a pustule was situated. The nasal fossa on this side exhibited large reddish fungosities, which were traced upwards to the ethmoidal cells, and backwards to the pharynx; the nasal passage was completely obstructed, and the natural tissues were with difficulty recognizable amidst the fungous mass. On detaching the tumefied mucous membrane, a multitude of minute pustules were brought into view. The posterior edge of the velum palati, at the junction of the two pillars, was found to contain a small abscess full of matter. In the right nasal fossa, the inferior spongy bone exhibited a fungous patch similar to what, as we have described, was observed in the left one, but only much smaller.

There was considerable subarachnoid effusion on the convex surface of the *brain;* but the encephalon did not present any other decidedly morbid appearance. The lower half of the *trachea* was inflamed, swollen, and its mucous membrane a good deal softened. Here and there were observed minute abscesses, similar to those found in the nasal fossæ. The *lungs* were healthy throughout, with the exception of a minute abscess in the upper part of the right lobe. The heart was normal; so also was the liver; the spleen was friable and softened.

Case 2.—A postillion, 33 years of age, was admitted on the 10th of November, 1835, into the hospital at Lausanne, in consequence of severe pains in the lower limbs, and more especially in the right knee; there were also several painful rounded tumors on different parts of the limbs. One of these, situated beneath the right knee, was of the size of a large egg, and communicated to the finger a distinct sense of fluctuation. A similar tumor, but of smaller dimensions, existed on each arm. There was slight hydarthrosis of the left knee-joint. The patient was put on a nutritious diet, and he was ordered to drink a decoction of mezereum and other woods. One of the tumors on the left leg was punctured with the lancet; but nothing save a little dark blood was discharged from the wound. The other tumors were kept wetted with a decoction of oak-bark, to which some spirit of wine had been added. For three months this patient continued in a weak and ailing state; but, by persevering in the use of tonics, wine, and a generous diet, his health and strength began to be so much improved that he was able to leave the hospital in the following March; he died however during the course of the Summer of marasmus.*

The disease of glanders is communicable to the human subject by atmospheric infection as well as by the direct inoculation of the diseased matter by a wound. The observations of Dr. *Farozzi* of Milan in *Omodei*'s journal for August, 1822, prove this. *Hufeland* seems to have been the first to pronounce that the disease in the horse is communicable to man: in a note to a case of doubtful character reported in his journal for March, 1822, he exclaims, *der Rotz der Pferde steckt Menschen an*, (the glanders of the horse infects men!) Veterinary surgeons had long known that wounds of the fingers, if infected with the nasal discharge of sickly horses, are apt to assume a most unhealthy character; but they do not

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* It is more than doubtful whether we can regard this case as one of glanders in the human subject, or *equinia*, as it has been denominated by some writers. That there was that peculiar cachectic state of the system, in which there is a tendency to the formation of subcutaneous abscesses, is manifest; but it does not appear that the disease was induced by any infection from the horse. It seems to us to be taking too limited a view of this and similar cases to refer them all to such a morbific cause. There is evidently a striking analogy between cases of this sort and the ecthyma cachecticum described by *Willan* and *Bateman*. —*Rev.*

seem to have been aware that the system under such circumstances is liable to be poisoned by the introduction of a virulent matter into the circulation. This fact, which has been clearly established of late years, cannot now be disputed by any one; although it is probable that some cases, which have been recorded as examples of glanders in the human subject, are of questionable authority. The following one well deserves to be generally known, and we shall therefore give its particulars at some length.

Case 3.—A man, 42 years of age, who had had charge of a glandered horse for a length of time, happened, one day before dressing the animal, to prick his finger; a few days subsequently the puncture became inflamed and painful, and the whole hand was swollen. M. *Thierry* was consulted; he ordered poultices to the finger and cooling medicines to be taken inwardly. In the course of a week, as a distinct feeling of fluctuation could be perceived in the site of the wound, a deep incision was made there, and gave issue to a quantity of purulent matter mixed with a bloody serosity. This was on the 14th of September; on the 22nd a painful swelling formed on the middle of the fore-arm; this gradually proceeded to suppuration, and, when opened with the lancet, gave vent to a large quantity of unhealthy pus. In the course of another week a second abscess formed nearer the wrist, and was treated in a similar manner. By the use of a generous diet, the patient seemed to be recovering his health and strength; but the amendment was only temporary. In the beginning of November a new abscess made its appearance on the upper part of the same fore-arm, and another about the middle of the arm of the same side; both were exceedingly painful, and the almost constant suffering of the patient brought on a feverish irritation of the whole system.

Fatigued with almost continued suffering for three months, and weakened and emaciated by the profuse suppuration from the abscesses, the patient now applied to M. *Amussat*, but without explaining to him the probable cause of his cachectic condition. This eminent surgeon suspected a scrofulous taint of the system, and prescribed accordingly. Benefit was derived from the treatment recommended, and by the 20th of December several of the abscesses had cicatrized. On the 4th of January, the two tumors on the arm and fore-arm suddenly vanished, but in the course of the same day a painful swelling made its appearance on the outer part of the right thigh; the system at the same time was effected with feverish chills and heats. This swelling gradually increased in size, and became more prominent and shining on the surface: after the ineffectual use of discutient remedies a blister was applied in the hope of dispersing it, but without any good effects. Although it had now existed for upwards of six weeks, no fluctuation could be detected, nor was this distinct until the first week of April. An incision being made into the most prominent part, a large quantity of thick and dark-coloured blood flowed out, but without the admixture of a single drop of purulent matter. This was a most unpleasant circumstance, and naturally suggested the possibility of the presence of an aneurismal sac; but, as there had not been any pulsation in the tumor, and as the discharge gradually ceased after some time, the fears of the medical attendant subsided.

A probe introduced into the wound could be made to pass for nearly eight inches in a direction right inwards and downwards. M. *Breschet* was now consulted; after listening to the details of the case, he at once pronounced that it was one of constitutional infection induced by the poisoning of the wound on the finger from the glandered horse. The venous or lymphatic system, participating in the general infection, might probably by the channel of the morbid virus being deposited in different parts, and thus exciting erratic suppurative action. The patient was taken into the Hôtel Dieu on the 4th of May, and there M. *Breschet* made an incision through the integuments along the entire length

of the swelling, to the extent of nearly eight inches. On separating the edges of the wound, it was now found that the sanguineous collection, that had been discharged five weeks before, was situated in part on the outside and in part beneath the aponeurosis of the thigh. M. *Breschet* directed that the internal surface of the tumor should be wetted daily with a solution of the ioduret of potassium. A day or two after the patient's admission into the hospital, he experienced a severe pain about the middle of the front of the other thigh, where an inflammatory swelling, similar to the one already described, gradually was developed. It was laid open on the 30th of June; but this was scarcely done, before another painful tumor made its appearance below the knee of the same side, and it was necessary to make an incision into it on the 7th of July. It was gratifying however to observe that the immense sac on the left thigh had been gradually cicatrizing, and every thing on the whole was going on pretty well until the 15th of this month (July), when the left ankle began to be swollen, red, and painful, and the general strength of the system became greatly debilitated. At the same time a cough, night sweats, &c. made their appearance; and diarrhœa soon followed. Towards the end of August, the right eye-lid first, and subsequently the forehead and the entire scalp, became affected with an œdematous swelling, and, a few days afterwards, a dark gangrenous spot was observed about the middle of this puffiness: this spot gradually increased, extending over the whole of the upper part of the face and entirely covering the nose; the epidermis was detached in several places, and a gelatinous bloody fluid exuded from under it. There were also at the same time a copious discharge of viscid fœtid matter from the nostrils; delirium came on during the night; and a number of livid pustules made their appearance upon the surface of the chest and extremities. On the 6th of September the patient died.

The *dissection* was performed with the greatest care in in the presence of MM. *Breschet*, *Amussat*, and many other medical men.

Without mentioning the phenomena observed in the various external abscesses, which are very minutely reported by the narrator, we proceed at once to describe the state of the nasal passages. The whole of their mucous surface was coated with a gelatiniform sanies; when this was removed, the surface appeared irregularly furrowed by ecchymoses which occupied more than half its extent, and in which could be observed several minute pustules, analogous, except in size, with those on the surface of the body: with the aid of the microscope it was found that some of them exhibited small circular points of ulceration.

The *lungs* exhibited numerous circumscribed points of lobular inflammation; the state of the heart is not mentioned.

It deserves to be mentioned that the horse, from which the patient, it is believed, caught the complaint, was examined by a distinguished veterinary surgeon, M. *Bouley*, and pronounced by him to be affected with "morve chronique dite tuberculeuse."

Remarks.—The most remarkable phenomenon in the preceding case was certainly the successive transference of the matter which engendered the disease upon a point sometimes remote from, and at other times more near to, the place where it had at first fixed its seat: this sort of metastasis occurred no fewer than ten times in the course of one year. There appeared a swelling, which was painful for the first few days, but without exhibiting a decided inflammatory aspect; its progress was slow; and, when it was opened with the knife a quantity of matter, sometimes of a healthy character and sometimes more or less blended with blood, was discharged, and this discharge continued for some time. Then all on a sudden it ceased entirely, and almost invariably a new swelling made its appearance in some other part.

Another peculiarity of this case is that there were none of the symptoms of acute glanders until near its close; then the eruption of pustules on the body,

the discharge of fœtid mucus from the nostrils, and the development of acute irritative fever, were not to be mistaken. But it is to be remembered that the disease is not unfrequently observed to follow nearly a similar course in the horse; the health of the animal may be for a long time but little, if at all, affected; and, were it not for the oozing of the viscid mucus from the nostrils, it might be pronounced to be perfectly sound. Suddenly, however, after this local complaint has continued for some time, the symptoms of the acute form of the disease make their appearance and the animal is quickly carried off.—*Revue Medicale.*

MOST OBSTINATE HICCUP CURED WITH QUININE.

A countryman was seized, while recovering from an attack of ague, with a convulsive hiccup which recurred every few moments. A variety of antispasmodic remedies, such as ether, valerian, musk, assafœtida, opium, &c. were tried, but without relieving the troublesome symptom: blisters, also, as well as other cutaneous irritants, were applied with equal unsuccess. For nine days the hiccup continued with but little intermission, and this was only at irregular intervals for about a quarter of an hour at most.

Suspecting that, although all the other symptoms of the ague had ceased for some time, this convulsive affection of the stomach might somehow be connected with it, the medical attendant administered a large dose of quinine in an enema. A few hours after it was given, the hiccup ceased almost entirely; but it again returned, as violent as before, next day. The quinine was again ordered, and with equally happy effects; and by persevering in its use for a few days, the symptoms did not return.—*Journal des Connois. Med. Chir.*

WALNUT-LEAF TEA, A GOOD REMEDY IN SCROFULOUS COMPLAINTS.

Professor *Negrier* of Angers, a respectable authority, has for some years past been trying the effects of an infusion of the leaves of the walnut-tree in a variety of scrofulous maladies, and the results of his experience have led him to form a most favourable opinion of it as an antiscrofulous remedy.

He reports a great number of cases of disease of the lymphatics, with or without ulceration of the integuments, of scrofulous ophthalmia, of affections of the bones and periosteum, &c. in which decided and very marked benefit was obtained from a course of this simply prepared tea. A handful of the fresh or slightly dried leaves may be added to a pint of boiling water, and of this infusion a small cupfull may be taken twice a day. An extract may also be prepared by evaporation, and this Dr. *Negrier* recommends to be given at the same time, either in the form of pills or of a thick syrup. A strong decoction of the leaves he has used with excellent effects as an application to scrofulous ulcers.—*Archives Generales.*

Remark.—We know nothing practically of this remedy, but somehow or other we feel inclined to predict that it is one deserving notice, and that it will be found useful in some cases of lymphatic and cutaneous disease. Whenever we pass a walnut-tree, and smell the peculiar odour which it gives out, the idea always occurs to us that it is not destitute of tolerably active medicinal properties. Moreover, as a general remark, scrofulous diseases are, on the whole, much more benefited by vegetable remedies than by those of a metalic nature, except, perhaps steel; and this we know is more *kin*, so to speak, to the body than any other class.—(*Rev.*)

M. CRUVEILHIER ON THE SOUNDS OF THE HEART: EXTRAORDINARY CASE OF CONGENITAL MALFORMATION OF THIS ORGAN.

A case, unique, we believe, in the annals of medicine, recently occurred in Paris; and, as it afforded a most favourable opportunity of examining the sounds and movements of the heart, it is most fortunate that so accurate an observer as M. *Cruveilhier* has detailed the particulars at great length. He was called to see the infant, a few hours after birth, in whom the following extraordinary malformation of the chest existed. The heart, which was vigorous and acted strongly, was situated fairly out of the chest, from which it had passed through a circular opening in the upper part of the sternum; this opening had the appearance of being moulded upon its pedicle, so to speak, formed by the large vessels which proceeded from and towards it. The heart was thus as completely exposed, as if the sternum had been removed and the pericardium opened. It was of a pale colour, as if it was still covered wiih its fibrous envelope, and its surface was dry. It moved about by any change in the position of the body; thus, when the infant was held up, the heart, obeying its natural gravity, fell down in front of the sternum; and then the vessels, serving as the pedicle of the swelling, were dragged somewhat lower than they had been before, so as to hang in front of the perforation. Whenever this was done, the movements of the heart were hurried, and the child began to scream, evidently from the uneasiness experienced; for no sooner was it again placed on its back, than it seemed to be easier and ceased crying. The axis of the heart was nearly vertical, and not oblique as in the healthy state. Merely touching it, or even gently pressing it with the finger, did not disturb its action, nor appear to distress the child. The ventricular portion of the organ was essentially formed by the left ventricle; the right one looked as a mere appendix, and did not contribute to the formation of the apex. The auricles were very imperfectly developed; they seemed like small wings at the basis of the heart, jutting out a little on each side. To see them distinctly, it was necessary to turn the heart over; but doing this always caused the infant to scream out.

Movements of the Heart.—1. The contraction of the two ventricles was simultaneous and isochronous; so likewise was that of the two auricles.

2. The contraction of the ventricles coincided with the dilatation of the auricles, and with the propulsion of the blood into the arteries. The dilatation of the ventricles coincided with the contraction of the auricles, and with the *reserrement* of the arteries.

3. There were only two periods in the movements of the heart; no period of repose, as described by most writers, could be perceived. The period of contraction immediately followed that of dilatation, and vice versâ.

4. As to the question which has been raised respecting the order in the succession of the heart's movements—viz. whether the contraction of the auricles precedes that of the ventricles, as most authors believe, or the reverse—it seems to me to be nonsense; the alternate contraction and dilatation of the auricles result from two opposed forces always in action, which succeed each other in an invariable succession, after the manner of the two alternate movements of an adjusted pendulum.

5. The duration of the contraction of the ventricles is double that of their dilatation. If we divide into three equal periods the entire duration of the ventricular systole and diastole, we find that two belong to the former and only one to the latter act. The period of repose, spoken of by most writers, has been taken for the first period of the systole. The same remark applies to the movements of the auricles; their contraction occupies twice the time of their dilatation.

6. During their contraction, the ventricles become pale, their surface furrowed, and as it were shrunk or shrivelled: the superficial veins swell; the *columnæ carneæ* of the right ventricle are to be perceived; and the circular fibres (les fibres tournoyantes) of the summit of the left one, which alone forms the apex of the heart, become more distinct.

7. During their cystole, the ventricles are contracted in every direction; and, if their shortening is the most obvious phenomenon, this is attributable only to the circumstance of the vertical diameter being the greatest; at the same time the apex of the heart describes a spiral or corkscrew-like movement from right to left and from behind forwards.

8. It is to this spiral contraction, which is slow, gradual, and as it were successive, that the forward movement of the apex of the heart and consequently its percussion against the thoracic parietes are owing; the systole of the ventricle is not accompanied with any distinct propulsion of its apex forwards, as is usually supposed.

9. The diastole of the heart takes place in a quick, and, as it were, instantaneous manner; it is so rapid and energetic, that it seems at first sight to constitute the organ's active movement; and it is so strong that the hand pressed firmly round it is forced open with violence.

10. The dilatation of the ventricles is accompanied with a propulsive movement of the heart downwards; it was most strongly marked when the infant was placed in a vertical position. This propulsive movement was so striking that at first I imagined that it was during the dilatation of the ventricles that the percussion of the apex against the walls of the chest took place. This idea had formerly existed in my mind from some observations made on frogs;* but, on a more attentive examination, I convinced myself that I was mistaken, and that it was really towards the close of the ventricular systole that the percussion actually occurred.

11. The diastole of the auricles is quick and *brusque* like that of the ventricles; but its duration is marked by the duration of the ventricular systole; their contraction is on the contrary as brief as the dilatation of the ventricles.

12. During its dilatation, the right auricle seems almost ready to burst, from being so much distended and its walls being so thin. The left one, being thicker, narrower, and more elongated, does not exhibit the phenomenon in the same degree.

Sounds of the Heart.—When the ear was applied against the heart, either directly or with a piece of fine linen interposed, the double or tic-tac sound was at once perceived. The first sound was much more feeble than it is usually when heard through the thoracic parietes. It was therefore evident that on the one hand the cause or seat of the double sound was resident in the heart itself, and on the other hand, that the first sound was aggravated or rendered louder by the walls of the chest. Let it not be imagined that the feebleness of the first

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* We may mention here that the same idea suggested itself eight or nine years ago to ourselves, while examining the actions of the frog's heart, when laid bare, with the late Dr. *Hope*. It certainly seemed to us that it was during the act of dilatation of the ventricles that the apex of the heart was thrown forwards; and we remember pointing out the circumstance to Dr. *Hope* and some other gentlemen present; they however were unwilling to admit in consequence, as we thought at the time, of their preconceived opinion to the contrary. It is possible that we may have alluded to this idea—of the pulsation of the heart being simultaneous with its dilatation—in some of the former numbers of the *Medico-Chirurgical Review*; but we cannot call to mind the exact number.—*Rev.*

sound was, in the extraordinary case now under consideration, at all owing to any feebleness in the heart's movements; on the contrary, these were very vigorous, and the child appeared altogether extremely lively.

2. The loudness of the tic-tac gradually increased from the apex towards the base of the heart, and vice versa; from this it follows that it was at the base of the heart that we had to seek to discover its cause or actual seat.

3. If the finger was applied upon the origin of the pulmonary artery—which is, as we know, situated in front of the origin of the aorta, so as to conceal it completely—we experienced a sensation that was plainly distinct from the vibratory movement which answered to the contraction of the artery, and which consequently coincided with the dilatation of the ventricles: this vibratory movement was feeble and indistinct during the dilatation of the artery, and the simultaneous contraction of the ventricle.

4. Now what does this vibratory movement indicate? As it was impossible to apply the ear directly on the point corresponding to the perforation in the sternum, I used my fore-finger as a sort of stethoscope; then, putting my ear to one point along the course of my finger, I could distinctly recognise a well-marked clacking sound (*bruit de claquement.*) Several times I, as well as some other gentlemen, repeated this experiment, varying it by applying the ear against the angle formed by the articulation of the second metacarpal joint with the first phalanx of the fore-finger, and always obtained the same result.

5. In vain I sought to hear a double sound; only one could be perceived; and this was sharp and short like that of the second period. Moreover it coincided with the contraction of the artery, and consequently with the shutting of the sigmoid valves thrown back by the column of blood. The interposition of the finger, as an auscultatory medium, had the advantage of combining the perceptions furnished by the sense of touch with those furnished by the sense of hearing.

6. The cause of the second sound was therefore manifestly owing to the vibration or tremulous movement of the sigmoid valves of the aorta and of the pulmonary artery thrown back (refoulés) by the column of blood which tends to flow retrograde at the moment of the contraction of the vessels. This second sound coincided with the dilatation of the ventricles, being short like it, and also with the contraction of the auricles.

7. So much for the second sound; let us now consider the cause of the first one. Believing that this, the first, sound had its origin in the movements of the auriculo-ventricular valves, I placed my finger on every point in the circumference of the basis of the ventricles, in the hope of finding on the level of the tricuspid and mitral valves a tremulous vibration analagous with that which I had felt so distinctly opposite to the seat of the sigmoid valves; but no such movement could I discover. Applying my ear, sometimes directly and sometimes with the aid of my finger (as already described,) on every accessible point of the basis of the heart, no sound was ever to be heard. I feel therefore convinced that the auriculo-ventricular valves are completely silent (aphones,) as well as every point on the surface of the heart, except immediately over the seat of the sigmoid valves; and consequently that I must seek elsewhere for the cause of the first sound.

8. If the first sound has not its seat in the auriculo-ventricular valves, and if all the other points of the surface of the heart are equally aphonous, and if the sounds which they do communicate to the ear are merely sounds of transmission, may it not be possible that this first sound has the same seat or locality as the second—viz. the sigmoid valves of the aorta and pulmonary artery? and may it not be that the first sound is the result of the replacement (*redressement*) of these last-named valves by the wave of the blood from the ventricles, as the second one is the result of the closing together of these valves by the retrograde

movement of the blood. This idea seems to me to be confirmed by the following considerations:—

(*a.*) In the case of the present curious malformation, the maximum of the intensity of the first sound was certainly in the same place as the maximum of the intensity of the second.

(*b.*) The character of the first sound was of exactly the same nature as that of the second one, except only in point of intensity, which was less, and of duration, which on the contrary was greater.

(*c.*) If the first, as well as the second, sound be seated in the sigmoid valves, it must follow that all diseases of these valves will have the effect of altering more or less these two sounds. Now this occurs constantly. In all the observations which I have collected upon this subject, I find that the two sounds are altered in their tone, acquiring more or less of a blowing or rasping character.*

(*d.*) We need not be surprised that no sound accompanies the movements of the auriculo-ventricular valves, seeing that these valves are not loose, but tied down by tendinous cords attached to their free edges and their ventricular surfaces. Add to this that, the contraction of the ventricles taking place in a slow, and as it were a successive manner, the movement of the apex of the heart towards its basis, and consequently the lifting up of the auriculo-ventricular valves must take place in the same manner, and therefore without any vibration. Besides it is evident that, in cases of thickening of the mitral and tricuspid valves, these valves must become more or less vibratile, and the sound which results from this condition will be confounded with that of the sigmoid valves.

(*e.*) To this explanation it may perhaps be objected: if the seat of the sound is in the sigmoid valves, how is it that the maximum of the first sound is at the apex of the heart, and not at its basis on the level of these valves? True, at the bed-side of a patient, the maximum of the first sound is over the apex of the heart when the ventricles contract with so much vigour, that it strikes strongly against the thoracic parietes; but, when they contract feebly, and the throb therefore against the chest is weak, I am confident that it is behind the sternum, and on the level of the pulmonary and aortic orifices, that the maximum of the first sound will be heard; unquestionably it has been behind the sternum, and sometimes in this place only, that I have been able to perceive the first sound in cases of hydro-pericardium. Let us not forget that the first sound is composed of two phenomena quite distinct from each other—viz. 1, the valvular sound, and 2, the shock of the apex of the heart against the chest; hence it is that, in cases of anæmia, chlorosis, and of certain organic affections of the heart, the first sound is so very sonorous as to acquire a metallic tone, and sometimes to conceal almost entirely the second sound.

General Conclusions.—From the preceding observations, it appears to me rational to infer that the two sounds of the heart have their seat at the origin of the pulmonary artery and aorta, and their cause in the clacking of the sigmoid valves; that the first sound, which coincides with the systole of the ventricles and with the dilatation of the arteries, is the result of the elevation or replacement of the sigmoid valves (du redressement des valvules sigmoides, preslablement abaissées;) and that the second sound, which coincides with the diastole of the ventricles and with the contraction of the auricles, is the result of the closing together of the same valves folded back by the retrograde wave of blood. On the one hand, the simplicity of this theory, and the ready and natural explanation which it gives of all the facts with which I am acquainted, may be adduced

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* M. *Cruveilhier* qualifies this assertion by subsequently adding: "let it be understood that I am now speaking only of those cases in which the mitral and tricuspid valves were perfectly sound."

as a proof of its truth; and, on the other hand, the considerations into which I have entered seem to me to have all the weight of a rigorous and direct demonstration. The circumstance of not being able to perceive the first sound with the finger placed in the manner of a stethoscope around the orifices of the aorta and pulmonary artery is by no means a peremptory argument against the doctrine now proposed; for it is of almost daily occurrence that we find that the ordinary stethoscope does not communicate to the ear either the sounds of the heart or those of respiration, when they are very feeble. In conclusion, may we not assert that the first sound must have its seat at the sigmoid valves from the mere circumstance that its seat is not elsewhere?—*Gazette Medicale.*

M. Dubois on the Auscultatory Signs of Pregnancy.

In our last number, we noticed some of the observations of this accomplished accoucheur on the signs furnished by the state of the mammæ in pregnant women: we shall now pick out a few of the most interesting remarks from his lectures on the other signs.

Auscultatory Signs.—The uterine *souffle* is usually perceptible about the fourteenth or fifteenth week of pregnancy: the period at which it may be first heard, being, no doubt, dependent upon the amount of development of the uterus and its elevation above the os pubis. The point at which it is most frequently audible is towards the middle of the height of the uterus on its anterior or lateral (generally the left side) part. In this respect M. *Dubois* differs from M. *Naegele*, who states that the common situation of the uterine blowing sound is in one of the inguinal regions, extending thence upwards. In most cases, the space over which it may be heard is limited to a circle of two or three inches in circumference. A curious circumstance connected with this sound is the occasional changeableness of its situation; on one day it is inaudible at a spot where it had been distinctly heard the day before, and *vice versa*.

Obstetrical auscultators should be aware of this fact; else they will be apt to be perplexed in some cases. We may mention likewise that the uterine *souffle* varies much at different times in its loudness and distinctness, being one day scarcely audible, and on the next, perhaps, very distinct.

That the development of this sound is somehow dependent upon the circulation of the blood through the uterus, appears from the fact that it is always much enfeebled, or even altogether suspended, by the contractions of the organ during parturition—a fact which abundantly proves that the sound cannot proceed from the pressure of the gravid uterus on the iliac arteries, as some writers have alleged. The striking resemblance of the uterine *bruit* to that perceived in erectile tumors, and in aneurismal varices, confirms the above opinion. M. *Dubois* objects to the appellation of placentary or utero-placentary being applied to this blowing sound, for the reason that, although its locality most frequently corresponds with the attachment of the placenta, it continues to be audible for some time after the expulsion of this body, and in other cases after the death of the fœtus.

The other sound, that of the fœtal heart, is a still more decisive sign of pregnancy: the number of the pulsations varies, according to the experience of M. *Dubois* from 135 to 150.* The tic-tac sound is usually most distinctly perceived on the anterior part of the abdomen somewhat to the left side; it is

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* It is a curious circumstance, that the late Dr. *Hamilton*, so long the distinguished professor of midwifery in the University of Edinburgh, most stoutly

rarely audible before the completion of four, or four and a half, months of pregnancy.

Changes in the Cervix Uteri.—It has been asserted by some obstetrical writers, that the diminution in the length of the servix is gradual and regularly progressive during pregnancy; thus, that by the end of the fourth month, it has lost about one-third of its length; by the end of the fifth month, one-half; by the end of the sixth, three-fourths; and by the end of the eighth, it is not more than about two lines long. It must not, however, be imagined that in all cases this diminution of the neck of the womb is so uniform as to enable the accoucheur to predict the period of pregnancy.

M. *Dubois* mentions a case in which he had an opportunity of examining the uterus in a woman who died in the eighth month, and in whom the servix uteri was found to be as long as it usually is during the first months; and he cites another instance where a woman stated that she was near the period of her confinement, but her accoucheur, finding that the servix uteri was not at all shortened, expressed his disbelief that such could be the case; the result however, soon proved the inaccuracy of his opinion.

In many cases, the outline of the distended uterus may be felt through the abdominal parietes: this examination is always best made when the woman is in bed and early in the morning before food is taken: if the bladder and bowels have previously been emptied, the examination will be more easy and satisfactory.

M. *Dubois* cites two or three curious cases, in which the pains of seeming labour came on with all the other usual accompaniments at the time expected by the woman, although it afterwards proved that she was not even pregnant.—*Gazette des Hôpitaux.*

NUMBER OF SUICIDES IN FRANCE IN 1839.

During the course of this year 2,717 cases of self-destruction have been reported by the authorities of the different departments; of this number, 698 were committed by females; and 486 occurred in Paris alone.

We cannot, however, regard this as the entire number of suicides perpetrated throughout France, during the year; for very many undoubted cases, says the reporter, are, either from insufficient data or at the importunity of relatives, registered as deaths from accident. The following table shows that the dreadful crime of self-destruction has been yearly increasing during the last four years:—

1836	2,310
1837	2,413
1838	2,556
1839	2,717

(A lamentable picture of human depravity!)—*Gazette Medicale.*

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maintained that the pulse of the child in utero, and also after birth until breathing commenced, seldom exceeded 60 or 70 pulsations in the minute. In our notice of his last work, in the number of the Medico-Chirurgical Review for July 1836, we questioned the accuracy of the Doctor's assertions, and incurred in consequence his wrathful criticism. Our readers may find it worth their while to revert to his pamphlet, and our rejoinder, in the number of this Review for January 1837.—*Rev.*

CASE OF PALSY OF BOTH FACIAL (7TH PAIR) NERVES.

The following very curious and rare case is well deserving of being recorded.

A young lady, 22 years of age, consulted M. *Magendie*, in April, 1840, in consequence of the following symptoms which had made their appearance about a fortnight previously. The earliest symptom was a slight embarrassment in the movements of the left eyelid; this was soon accompanied with an inability to contract the left temple and left half of the forehead. The next symptoms were sensation of numbness in the left side of the tongue, but without any impediment in its movements, and an increased sensitiveness of hearing, so that the gentlest sounds caused a painful resonance in the left ear. These two last symptoms did not last above 24 hours; but the paralysis was permanent. At the period of her consulting M. *Magendie*, there was considerable distortion of the features on the right side, especially of the mouth and chin; also an inability to contract the forehead and to close the left eyelids. The left side of the upper lip hung down below the level of the other side, and the left side of the lower one was equally paralysed; the saliva flowed involuntarily from the left angle of the mouth. The left cheek was drawn to the right side, and was stretched and firmly applied to the gums and teeth; it swelled somewhat during the act of expiration, and fell down during that of inspiration. While eating, the food was apt to collect in the left side; and while speaking, laughing, &c. the deformity of the features was always greater.

M. *Magendie* recommended a trial of galvanism with acupuncturation; one needle was to be inserted over the parotid gland and another over the supra-orbital, the infra-orbital, and the mental foramina successively. These needles were then brought in connection with the conductors of *Clarke's* machine the wheel of which was at first turned round slowly and afterwards more quickly. Each galvanic shock produced painful dartings over the whole of the affected side of the face; but it was observed that the muscles contracted but feebly. This treatment was ordered to be repeated every day.

For the first five days it seemed to have little effect, and on the sixth, a new set of symptoms made their appearance; the right side of the face now becoming affected in a similar manner. The right eye could with difficulty be closed, and the right side of the forehead could not be moved; the distortion of the left side was at the same time considerably less than it had been before. On one day the patient experienced a numbness in the right half of the tongue, and a painful sensitiveness to sounds in the right ear. M. *Magendie* ordered that both sides of the face should be galvanised daily in the manner that we have explained: the contraction of the muscles under the influence of the shocks was observed to be much less than in health. Little benefit however seemed to be derived from the treatment, and on the 15th of April, (13 days after her first visit to M. *Magendie*,) the following report was made of her case.

There is now no longer any distortion of the features; they are regular, but motionless and impassable, so that they do not express by any change, except in the colour of the face, the emotions of the patient. The eyeballs seem to be unusually large, in consequence of the inability to close the lids; and the hanging down of the eyebrows gives a most unpleasing character to the physiognomy: the tears are constantly flowing down the cheeks. The patient cannot contract any part of the forehead; the alæ of the nose are much flattened, and inclined in towards the septum. The lips have lost all their contractility, so that the speech is much embarrassed, and the pronunciation of labial sounds is impracticable. Mastication is equally difficult; for the food is always getting between the gums and the cheeks, and the patient is obliged to use her fingers to displace it. The cheeks are flat and hang down, so that the face looks lengthened and much older than in health.

From the phenomena now mentioned, it is obvious that the muscles under

the influence of the facial nerves of the 7th pairs have lost almost entirely their contractile powers. The general health has however remained perfectly good; the appetite being regular, sleep undisturbed, &c.

After a few days' longer continuance of the galvanism, the face was observed to be somewhat drawn to the left side—a good sign; for it implied that the muscles on this side were recovering their motility. At the same time the patient found that she could move a little the left angle of the mouth, close the left eyelid, and contract somewhat the left side of the forehead. The galvanism being persevered with, the muscles of the right side soon began to contract more forcibly under its influence, and to be also more obedient to the will.

In the first week of May (25th seance,) the features had nearly recovered their perfect regularity;—not indeed as in the second stage of the case, when the absence of distortion was owing to a double paralysis, but in consequence of a double cure—which was only slightly disturbed when the patient spoke or laughed. The tears and the saliva were no longer excreted involuntarily; the sides of the nose were not pinched in as before, and the patient could now masticate her food without being obliged to be every now and then putting her finger in her mouth. M. *Magendie* recommended that the needles should now be implanted only into the substance of those muscles whose motility seemed to be not quite so perfectly recovered as that of the others. In the course of a week or two more, the cure was pronounced to be complete in every respect.

In concluding the report of this curious case, it should especially be kept in mind that the sensory twigs of the *portio dura* on either side were not at all affected; the sensibility of the face remaining as perfect as in health throughout the continuance of the muscular paralysis.

It may be objected by some that the continuance of the sensibility unimpaired might be owing rather to the integrity of the fifth pairs, than of the sensory twigs of the seventh pairs. But the following fact, which was repeatedly observed by M. *Magendie* and pointed out by him to several pupils, disproves this idea. If, when a needle was inserted into the parotid gland, it reached directly a twig of the *portio dura*, that moment the pain radiated along all the ramifications of the pricked nerve. The sensory filaments of the nerve were therefore not paralysed as its motory were.

We can readily understand how the seventh pair should have retained its sensibility under such circumstances; seeing that this is supplied or communicated to it by the fifth pair; for, if we divide the *portio dura* between the stylo-mastoid foramen and the anastomosis with the auriculo-temporal branch, the extremity of the nerve which corresponds to the face does not lose its sensibility, although all power of motion in the parts is abolished.* It thus appears that the *portio dura* does not derive its sensibility directly from the encephalon, but indirectly and by the way of anastomosis, beyond the point where we have made the section.

This circumstance explains why palsy of the fifth pair induces a loss of sensibility in the seventh pair also; the sensory filaments of the latter emanating, so to speak, from the former.

In the patient, whose case we have given above, both nerves of the seventh pair were paralysed, while the fifth pair remained quite intact.

General Considerations on Paralysis of the Seventh Pair.

This pair of cerebral nerves is much more frequently affected with palsy than the fifth pair; moreover, the disease in the one case is much less serious than when the latter nerves are implicated. In the first case, the motility only

* For an account of the experiments which prove this, consult the two volumes of *Magendie*, Leçons sur le System Nerveux.

is impaired or lost; in the second, the general sensibility of the face and the special sensibilities of sight, hearing, smell, and taste, are more or less compromised, with or without a loss of motion in the lower jaw at the same time.

Palsy of the seventh pair is not accompanied with any lesion in the nutrition of the parts which it supplies; while that of the fifth pair is often attended with most serious changes, amounting sometimes to gangrene in different parts.

Palsy of the seventh pair on one side is not unfrequent; but it is exceedingly rare that both nerves are affected at the same time. The preceding case is almost unique: it confirms what experiments had previously taught us, that the division of both nerves causes a complete immobility of the whole of the face.

The most important point to determine in cases of palsy of the *portio dura* is, whether the disease be simply local, or whether it is connected with, and dependent on, disease within the cranium.

Of all diseases of the brain, hæmorrhage is that which is most frequently accompanied with paralysis of the face. If there be palsy of the limbs of the same side, the diagnosis cannot be doubtful. But the latter symptom may be absent, although there is hæmorrhage; as was shown in the case of the late Baron *Dupuytren* We must therefore be on our guard not at once to pronounce a case free from danger, because the face alone and not the limbs at the same time are affected with paralysis.

M. *Andral* lays much stress on the following circumstances to guide our diagnosis. In cerebral hæmorrhage the features are much less distorted, and the muscles of the face continue to have some power of motion: *the patients can readily, on the palsied side, close the eyelids and contract the forehead.* On the contrary, when there is a lesion of the nerve without cerebral mischief, the distortion of the features is much more considerable, and all muscular contractility is usually gone: *the patient cannot close his eyelids, or contract the forehead.*

When we have reason to believe that the paralysis of the seventh pair is connected with any recent lesion of the brain, we must carefully avoid any stimulating remedies, and galvanism among the number.

But when the paralysis is of local origin, there is no remedy so efficacious as galvanism to excite the dormant powers of the nerve. M. *Magendie* recommends that we should act on the fifth pair as well as on the seventh, in consequence of the influence which the former has on the functions of the latter nerve. For this purpose, one needle should be inserted into the parotid gland, and another immediately over either the supra-orbital, the sub-orbital, or the mental foramen; or, what is better, over each of the foramina in succession. If during the treatment any muscle or muscles are more refractory than the rest, a needle should be inserted into it, and the galvanic stream be sent directly through it. Some patients object to the use of the needles, although the operation is attended with scarcely any pain. When such is the case, we must be satisfied with merely applying the conductors: one of these should terminate in a flat surface, and be applied in front of the ear; and the other in a lengthened globular end which can be drawn along the internal surface of the cheek and lips. In this way the galvanism may be made to act on the palsied nerves; but its action is much less efficacious than when the needles are employed at the same time. The average duration of the cure of paralysis of the *portio dura* by galvanism may be stated at about twenty *seances*. The machine which M. *Magendie* has exclusively used for some years past is the electro-magnetic instrument of *Clarke*. He very rarely prescribes any medicine either for internal or for external use.—*Gazette Medicale.*

Remark.—The preceding case we should pronounce to be one of *hysterical paralysis.* The suddenness of the attack, while the general health was and continued to be good, and its transference to the fellow nerve on the opposite side lead us to this conclusion. The comments however, which the author makes,

and his account of *Magendie's* treatment of such cases, are highly interesting.—(*Rev.*)

IODURETTED MERCURIAL SYRUP FOR THE TREATMENT OF SECONDARY SYPHILIS.

Dr. *Gibert* has for some time been using the following syrup in many cases of obstinate secondary venereal affections.

Take of

Bi—or deuto-ioduret of Mercury	1 part (gramme)
Ioduret of potassium	50 parts
Distilled water	50 parts

Dissolve, filter through paper, and then add of

Very clear syrup	2400 parts.

The usual dose is a table spoonfull, which may be said to contain one centigramme of the bi-ioduret of mercury, and 50 centigrammes of the ioduret of potassium. The syrup has no unpleasant taste and possesses the great advantage of remaining unchanged for a great length of time.

The proportion of the ioduret of potassium in the syrup is more than sufficient to hold the mercurial bi-ioduret in solution; but, besides that it serves to counteract the tendency of the latter to decomposition, it is in itself a useful remedy; whence the excess is rather an advantage than otherwise.

M. *Gibert* also occasionally orders the bi-ioduret in the form of pills; thus:—

Take of

Bi-ioduret of mercury	0,10 grammes.
Ioduret of potassium	5,00 ——
Powdered gumarabic	0,50 ——
Honey	q. s.

Make a mass to be divided into 20 pills, of which two or more may be taken daily.

By means of these formulæ, M. *Gibert* tells us that he has succeeded in curing several cases of inveterate syphilis and scrofulous cutaneous disease, which had long resisted every other remedy.

BARON LARREY; HIS MEMORABLE CAREER.

The great captains of former times have set the example of devoting the leisure of their old age to the recounting, for the benefit of their successors, the history of their campaigns and military labours. Some of the masters of our art too have followed this most useful plan, blending the impressions of their army life with the results of their professional practice, and thus dramatising science by bringing it in contact with the events of the age. The works of *Ambrose Paré* for example, not only constitute a venerable portion of the records of surgery, but at the same time shed much light on the state of French society at the period; they combine the interest of a chronicle and the historical value of a scientific treastise. Following the example of the father of French surgery, Baron *Larrey* has communicated to the public, in a series of admirable works, the results of an active life, which, next to that of the immortal Huguenot (Duke de Sully), is assuredly one of the most remarkable on record for its duration and its varied interest. Like his great model he has taken up the pen only to narrate what he has seen and what he has done: a literary proceeding that, for a length of time, seems to have fallen into desuetude. He commenced active service in 1787,

in which year he embarked for America as surgeon-major of the Royal Marine, and was constantly engaged down to the battle of Waterloo, where he was severely wounded. From that period to the present time he has not been idle; the volume which he has recently published bears ample testimony to this. Although rather obstinately attached to many of the doctrines and practices of former times, and unwilling to admit the value of some of the modern discoveries, it is impossible to refuse the highest praise to his numerous works, all of which bear the stamp of great practical value. Everywhere we meet with a clear detail of facts in all their points of view, a quick discernment of their real importance, a fair spirit of deduction applied to practice, and a sound judgment based upon the results of an immense experience.

When we think of the grandeur of the scenes on which Baron *Larrey* acted with a zeal which has never been surpassed; when we call to mind how many times the same problems of military surgery were brought under his persevering attention, and remember the multitude and variety of the operations which he has performed himself, or which have been performed under his immediate inspection, it is impossible not to rest with an entire confidence on the recollections of so colossal a practice, and we feel a degree of hesitation in questioning the propriety of any of his opinions and precepts. The further that we are removed from that memorable epoch of battles, and victories, and disasters, during which the genius of war converted the whole of Europe into one vast theatre of clinical surgery, the more highly will be estimated the importance of works replete with precepts dictated, so to speak, on the field of battle, like the bulletins of the Emperor himself. Never probably again will so many and so varied striking events be compressed into the career of one life; and never, we trust, will there be so ample a field of instruction in all the numerous departments of military surgery. He who from Egypt to Waterloo has stanched the wounds alike of conqueror and conquered, he who for thirty years has personified in himself the heroism of humanity, and has drawn around him all the distinguished men who have contributed during that time to advance the progress of our art, like rays all verging to or springing from one centre, diffusing among them the light of his own intelligence, cannot but be regarded with singular interest and admiration. It is not in his published works alone that we are to seek for the proofs of his presiding mind; we must compare the state of military surgery at the beginning of our revolutionary war with its present highly improved condition, and examine the numerous works of those men who have been formed under his guidance, to appreciate fully the mighty good that *Larrey* has done. The same remark is applicable to another bright ornament of modern surgery in France, we mean M. *Dupuytren:* his published works are far from being a complete expression of the striking individuality of his career and of the benefits which he conferred on medical science.

The recently-published volume of Baron *Larrey* closes the series of the voyages and campaigns, which he has so well described. It contains, besides, a new notice of the immoveable apparatus for the treatment of fractures and certain wounds of the soft parts, and sets in a striking point of view the advantages of its adoption in the surgery of actual warfare. There is also a reprint of the interesting memoir on the physical constitution of the Arabs, which was read some time ago at the Institute; the accuracy of the description has been amply borne out by the testimony of our military surgeons in Algiers, &c., and affords a striking proof that the illustrious author could extend his observation beyond the field of professional labour, and that he viewed every object around him with the keen glance of a philosopher.

Since the disaster of Waterloo, *Larrey* has visited Great Britain,—the Pyrenees, where on a pious journey to his native village he had the happiness of meeting his first teacher, a venerable priest now ninety years old: for, like *Broussais*, he was a child of the church,—Italy, which he had once traversed with our

victorious armies, and Rome, where he met Napoleon's august mother, who, though blind, at once recognised the voice of one of the legatees of her illustrious son.

Wherever he went, he inspected with the greatest care all the hospitals, medical schools, museums, &c., taking notes of what he saw and heard, and comparing them with the results of his own individual experience. In England, especially, he made himself thoroughly acquainted with all the details of the medical service, and modes of instruction adopted there, and with the various charitable and other institutions of the country; and, on his return to France, he drew up a report on the state of the English barracks and hospitals, which he communicated to the minister of war.

Let us join him in offering our homage to our *confreres* on the other side of the channel for the distinguished reception which he met with every where among them; in all the hospitals he was received as a master, and honoured as one of the glorious heroes of the imperial Iliad—a useful lesson to ourselves, who are too apt to be just only to the dead.

The caustic genius of the French character often prevents the due appreciation of talent in our own country: we seem to be unwilling to leave alone the glories achieved under our own eyes; and, like our ancestors who, in a day of puerile rage, destroyed the statues and other ornaments of our cathedrals, we, to gratify our sarcasm or ingratitude, too frequently attack the bright fame of our cotemporaries. Alas! we must confess, that even some of his illustrious patients, men who owed their lives to his skill and humanity, have too often forgotten their benefactor in the tranquil life of peace. We could mention the name of one general, who was saved by him more than thirty years ago, and who has been all that time trying to learn gratitude, and has not yet succeeded in acquiring it. It would seem that the Emperor had had a presentiment of such conduct, and that, as a recompense to his friend, he decreed by his will immortality to the name of *Larrey.—Gazette Medicale.*

ON THE FORMATION OF AN ARTIFICIAL ANUS: DISCUSSION AT THE ROYAL ACADEMY.

M. *Amussat* stated that he had performed the operation in three different cases, since the date of his former communication to the Academy.*

In the first case the patient was affected with a cancer of the omentum, and the diseased mass was found on dissection to have compressed the colon, where it is about to form its sigmoid flexure; there was complete retention of the fæcal matters. M. *Amussat* established an artificial anus in the ascending portion of the intestine, following the plan recommended by *Callisen*. Having exposed the bowel on its posterior surface, in the right lumbar region, he first passed a thread through it with the view of securing it to the edges of the wound; he then opened it with a trochar, and afterwards extended the aperture in a longitudinal direction. A quantity of fæcal matter was at once discharged. Some time afterwards evacuations took place by the natural passage.

In the second case, the patient, sixty years of age, had, from the same cause as in the preceding instance, an obstruction of the bowels which had continued for nearly fifty days; the cancerous affection was seated at the upper part of the rectum. For a length of time nothing had been discharged per anum except liquid matters mixed with blood and mucosity. M. *Amussat* established an opening in the descending portion of the colon, and immediately a quantity of

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* Vide Medico-Chirurgical Review, for April, 1840, p. 539.

fæculent matter escaped from the wound. The bowels remained inactive; and, although no inflammatory re-action followed, the patient died on the 10th day after the operation, from the progress of the cancerous disease.

The third case occurred in a man who had been in excellent health, until suddenly seized with an obstruction of the bowels. The cause could not be discovered; and it was almost impossible to say whether the obstruction was situated in the large or in the small intestines. In this case, the operation of *Littre* was performed, although M. *Amussat* is not favourable to it upon the whole, but gives the preference to that recommended by *Callisen*. By opening the cæcum on its anterior surface, in the present case, he thought that there was a better chance of discovering the seat of the obstruction, whether it was in this bowel, or whether it was higher up. Having exposed the cæcum, he first secured it in its place by means of a thread passed through it, and then made an opening into it. The patient, who was in a state of extreme prostration, died in the course of twenty-four hours after the operation. On dissection, it was found that the obstruction was situated about the point of union of the transverse and descending portions of the colon. It had probably been induced by the irritation caused by a chicken-bone which was found lodged there.

M. *Amussat* stated that the patient, on whom he had operated after *Callisen's* plan two years ago, remained in perfect health.

. . . . . M. *Gimelle*, one of the surgeons of the Hôtel des Invalides, considered that M. *Amussat* had rendered an important service to surgery by restoring the operation of making an opening into the intestine without wounding the peritonæum; but he could not understand his motives for adopting the plan of *Littre* in the third case, where it is admitted that the seat of the constriction could not be determined before the operation.

It is to be remembered that *Littre* proposed his method only under more favourable circumstances; viz. when the distended bowel projected outwardly, and thus presented itself directly, as it were, to the scalpel.

. . . . . M. *Amussat* said that the patient in question, in whose case he had been condemned for operating, was able to retain three enemata. It was therefore, he thought, presumable that the obstruction was situated high up; and, as it was impossible to discover its exact position, he was naturally led to prefer the plan which enabled him to reach as high a portion of the gut as possible. The difficult point for the surgeon to determine is how he should act under such circumstances; if nothing is done, the patient is almost inevitably lost; and if an operation is attempted, he (the surgeon) is exposed to the reproach of having hastened the fatal termination. We have seen that one of my patients, whose death appeared to be imminent, has been saved, and still lives to bear testimony to the success of the operation.

. . . . . M. *Velpeau:*—In canvassing the difficult question at present before the Academy, it should be borne in mind that there is a very marked difference in different cases as to the length of time during which an obstruction of the bowels may continue with impunity: this holds good both in disease and in health. One thing has especially struck me in listening to the observations of M. *Amussat;* some of his patients have had alvine evacuations by the natural passage a few days after the performance of the operation. Now how should this be, if there was an actual and veritable obstruction? And, if such an obstruction did not exist, why operate at all? We have been told that one of his patients has survived for two years, and is still in good health; and yet this patient was pronounced to have scirrhus of the intestine. In what way are we to understand that the operation has been the means of prolonging his life? and how are we to imagine that the establishment of an artificial anus should be a cure for cancer? M. *Amussat* attributes the constriction of the bowel in his third case to the presence of a small bone found in the obstructed part; but may we not suppose that the stricture was of anterior date, and was rather the

cause than the effect of the lodgment of the bone? The difficulty of forming an exact diagnosis as to the seat of the disease is extreme, and, in spite of the interesting observations now read to us, is still quite as great in my opinion as ever. When should we operate? This is the embarrassing question; at least in cases of cancerous affections of the bowels. As to the obstruction of the bowels from other causes, as for example in the last case narrated by M. *Amussat*, the operation is certainly indicated on principle; but then how are we to determine the exact seat of the lesion? And, setting apart those cases where we can determine this, I do not believe that the operation of *Callisen*, so much recommended by M. *Amussat*, can ever be generally applicable.

M. *Amussat* replied to the objections adduced by his honourable colleague. As to the circumstance of the bowels relieving themselves by the natural passage after the formation of an artificial anus, it deserves to be mentioned that this occurred not only in my cases, but also in those reported by *Littre*. The explanation is probably this: the cancerous mass becomes more and more softened until ultimately it is detached, and then the passage which it obstructed becomes comparatively free. His doubts as to the real nature of the lesion in the case of the patient who still survives, appear to me unreasonable, as my diagnosis at the time was confirmed by MM. *Recamier*, *Foville*, and *Breschet*. The slow prognosis of the disease may be accounted for by supposing that there is an incarcerated cancer of the parietes of the rectum.(!)

M. *Guersent* mentioned two cases of obliteration of the intestines: the first occurred in the famous dancer Goyon, who had been long afflicted with a tumor in the rectum. He died in a state of extreme emaciation in the Maison de Santé; and after death it was found that the gut was completely obstructed by a cancerous ring or constriction. In the second case, symptoms of strangulation came on quite suddenly, and no external tumor could be detected. On dissection, a cervical vertebra of a fowl was found placed across the intestine, so as quite to interrupt the passage of the feculent matter.

. . . . . M. *Lagneau*.—It has been said that the re-establishment of the alvine evacuations by the natural passage, after the performance of the operation, cannot be easily accounted for, if the obstruction had been a veritable one. But let us consider that, after the discharge of the fæces by the artificial opening, the irritation which their presence caused gradually subsides, and, the parietes of the intestine becoming freed from their previous engorgement, the passage is thus restored for the transmission of their contents.

. . . . . M. *Cornac* expressed his regret at not having been present at the reading of M. *Amussat's* paper. He had travelled with the patient on whom the operation had been successfully performed two years ago, and could bear ample testimony to the health which he now enjoyed. The patient, in his joy at having been saved by the operation, has often said that if *Talma* and *Broussais* had been treated in a like mannner, they might perhaps have been living at the present time.

. . . . . M. *Breschet*.—I perfectly agree with the preceding speaker in the view which he takes of the operation and of its results, and most willingly give the credit due to M. *Amussat* for the happy modification of it which he has introduced. But I cannot agree with him in his regret that it was not performed on *Talma* and *Broussais*. I saw both those illustrious men in their last illness, and do not hesitate to affirm that neither was in a condition for such an operation to be attempted. *Talma* was visited by *Dupuytren*, who completely coincided in this opinion, and expressly stated, that in his judgment there was nothing that could be done; for, besides the disease of the bowels, there existed an aneurism of the heart, which would in all probability have speedily carried him off, perhaps suddenly, and on the stage, in one of those parts in which he used to display so much pathos, that of Orestes for example.

After a few words from M. *Cornac*, disclaiming all imputations on any of the

medical attendants of those distinguished individuals, M. *Begin* rose to express his dissent from the opinions of M. *Breschet*. Far from thinking, said he, that the disease of *Talma* did not admit of the establishment of an artificial anus, it was on visiting him that I conceived the first idea of it. In my opinion his case was eminently favourable to the success of such an operation, as there was no cancerous degeneration of the bowels, but only a simple constriction at the upper part of the rectum. I am aware that there existed at the same time an aneurism of the heart; but such a complication was not in itself sufficient to forbid making an attempt to relieve the local disease; and I had formed the project, which I communicated to *Dupuytren*, to pierce the pouch in which the fæcal matters were lodged, and to open in the rectum an artificial anus by means of this puncture.

M. *Amussat* expressed his concurrence in these sentiments of M. *Begin*. The case of *Talma*, although he had not had an opportunity of seeing him during life, had always seemed to him to have been favourable to such an operation as he has proposed. Not only was the disease of the bowels not of a cancerous character, but Nature herself had commenced a process of self-relief, there being found on dissection an ulceration on the walls of the constricted portion, or rather on the septum which separated the pouch containing the fæcal matters from the lower part of the gut.

As to the case of *Broussais*, I saw him, continued M. *Amussat*, in his last moments, and can state confidently that there was an almost complete stoppage of the bowels: at the time of his death there had been no discharge for 21 days. The operation was therefore in my opinion quite admissible, and indeed it was on the occasion of my visiting this illustrious patient that I first thought of the plan of my method. I did not dare however to make the first attempt on so distinguished a person.

M. *Breschet*, in opposition to what had just been said of the case of *Broussais*, stated that, so far from there being a complete obstruction of the bowels, there were from time to time considerable evacuations, *debacles*, which the patient himself predicted would take place at particular times. It is easy *now* to say that the operation was indicated, and to form a diagnosis of the case *a posteriori*, after the dissection has revealed the nature of the existing lesion: but circumstances were very different during the life of the patient, and it will always be a most embarrassing question to decide as to the propriety of attempting an operation, when the diseased part cannot be reached with the finger.

M. *Gerdy*.—The operation which M. *Begin* proposed in the case of *Talma* appears to me to be very rational, and I have several times performed it with success on infants with imperforate anus, whether the gut was deficient for some extent, or was nearly closed at its orifice. By leaving a canula in the artificial canal, we may avoid all risk of extravasation taking place. In the case of adults affected with an obstruction of the bowels, it is to be remembered, as already alluded to by M. *Velpeau*, that it may exist for a great length of time in some persons without being attended with dangerous consequences. We have all heard of a surgeon of Rochefort, who, during a voyage from France to Senegal and back again to France, had not one alvine evacuation, until he returned home. He lived for a length of time with this unusual condition of the bowels in very good health.

M. *Begin* stated that the chance of extravasation was much greater in such a case as that of *Talma*, than it could possibly be in cases of imperforate anus or rectum occurring in new-born infants. In *Talma's* case the serous coat of the distended pouch and that of the lower part of the gut were opposed to each other, and hence any instrument passed through the septum must necessarily have penetrated the peritoneum.

M. CIVIALE ON NEURALGIA OF THE NECK OF THE BLADDER, &c.

This is an affection which is not unfrequently idiopathic and unconnected with any other diseases of the urinary organs, according to the experience of M. *Civiale*. It occurs in both sexes, but is much more frequent in the male; it is occasionally observed in young persons, but generally in adults and in those of advanced years. It may be induced by a variety of causes; either general, such as emotions of the mind, excesses in venery, or in the use of spirituous drinks: or local, such as retaining the urine too long, various lesions of the rectum or womb, a calculus in the bladder, constipation, &c. It is usually accompanied with frequent calls to pass water; with an uneasiness rather than an actual pain in doing so, and thus extending to the pubis, epigastrium, and umbilicus, or to the loins and down the thighs: and with more or less anxiety of mind in almost all cases. It may be either single and exist by itself; or it may be complicated with contraction of the urethra, swelling of the prostate, calculus or catarrh of the bladder, &c. The catarrh of the bladder is often secondary to the neuralgic affection of its cervix, according to the experience of M. *Civiale*. One of the least variable of all the symptoms is unquestionably the intermittent character of the vesical distress. It seems, however, to us, that our author is disposed to regard neuralgia of the bladder as more frequently idiopathic and unconnected with any other existing disease of the urinary organs, than most surgeons will admit. He acknowledges himself that in those cases in which the affection is complicated with stricture of the urethra, it will generally cease spontaneously when the disease is successfully treated. We know, too, that, in spite of the great improvements which have been effected of late years in the diagnosis of the diseases of the prostate and of the cervix vesicæ, these are sometimes so obscure in their early stages that they may be readily overlooked. We state this, not with the view of questioning the accuracy of the data furnished by M. *Civiale*, but only to account for the repugnance which some may feel to admit as a distinct entity a morbid condition, which has generally been attributed to various organic lesions either of the bladder itself, or of the contiguous organs. Indeed we are willing to give great praise to him for having drawn the attention of medical men, in so able a manner, to an affection of the urinary passages, which has been too much overlooked, and which according to his experience may exist quite independently of any organic lesion. The treatment, recommended by M. *Civiale*, consists in the introduction daily or every second day of a wax bougie into the bladder, to be left in for from three to ten minutes at a time; in the use of injections of cold or of tepid water into the bladder; the use of douche baths; the external application of the tartar-emetic ointment to the pubic region; the regulation of the bowels, the use of a mild diet, and the avoidance of stimulating drinks.

Diseases of the Vesiculæ Seminales, &c.

These organs, with the excretory ducts leading from them, are unquestionably subject to various morbid states, all of which usually take their origin in a sub-acute inflammation of their structures. M. *Civiale* describes three stages or degrees of this disease; but it is to be remembered that there is always considerable ambiguity in the symptoms.

In the first stage, the erections of the penis are more or less imperfect, the emission of the semen hurried and precipitate, and the sensation which accompanies the act, sharp or even painful. Under such circumstances the daily use of warm hip-baths, and mild enemata, and the occasional introduction of soft bougies along the urethra, may be resorted to with advantage. But the most important means of cure is unquestionably abstinence from sexual connexion; unfortunately it is the very one which is least likely to be followed by the

patient. To persuade a man in the vigour of age, and in whom, in consequence of the disease, the passion is more than ordinarily strong, that his desires are owing, not to an exuberance of vitality, but to a local irritation of his generative organs, is no easy thing.

Perhaps the best mode of effecting our object, is to direct the patient's attention to the effects which are usually the result of sexual indulgence in his own case; and he will confess that, after coition, he almost always experiences a prolonged exhaustion of strength, an unusual tendency to drowsiness, lassitude and sense of cold over the whole body.

In the second stage, the continued discharge from the urethra, when it does exist, becomes more abundant, coition is impossible, the semen escapes during the relaxation of the penis, and it is thin and inodorous. The use of cold applications to the pubis and perineum, of sulphureous douche-baths, of regular bodily exercise in the open air, of mild aperient enemata, and of some of the mineral tonics, constitutes the best treatment in such cases. M. *Lallemand* strongly recommends the occasional application of caustic to the deep-seated portion of the urethra: this, no doubt, is a valuable remedy; but it must be employed with caution.

In the third stage, all sexual desire is entirely abolished, and the erection of the penis is impossible; and the general health is almost always so much impaired, that local treatment holds out no prospect of doing any good. It is by fortifying the strength of the constitution, by travelling much in the open air, by a nutritious but mild regimen, and by living entirely *en garçon*, that any benefit may be expected to be derived. M. *Civiale* has given many valuable instructions both to patients and to medical men, clothed, too, in language altogether worthy of a delicate-minded gentleman, on the general management of cases of this description.

He devotes a chapter to the description of the various sorts of bridles (brides) or obstructions which are apt to be formed in and around the neck of the bladder, and which have of late years attracted a good deal of notice from pathologists. Some of them are membranous, others muscular, and a third set fungous. They arise either from inflammation of the vesical mucous membrane, or from swelling of the prostate gland. Whatever be their form or consistence, they are always situated on the lower edge of the vesical orifice of the urethra. When the obstruction is inconsiderable, the less that is done locally the better. If, however, the evacution of the urine is impeded, or threatens to be so, the steady and persevering use of soft bougies affords by far the best means of effecting a cure.—*Traité Pratique sur les Maladies des Organes Genito-urinaires.*

SECTION OF THE MUSCLES OF THE EYE IN AMAUROSIS, &c.

M. *Petrequin*, chief surgeon of the Hôtel Dieu at Lyons, recently communicated the following observations to the Academy of Sciences.

"From what I had observed in several cases of squinting, I was led to suspect that amaurosis is occasionally attributable to a spasmodic state of one or more of the muscles of the eye-ball.

In the majority of persons who squint, there is at the same time a greater or less weakness of vision, especially on that side where the morbid deviation is most conspicuous. Now I have found that this visual asthenia, whether this be a primary or a consecutive affection, generally subsides after the section of one or more of the muscles, especially when the patient has recourse to orthopthalmic gymnastics. (What a phrase!) Hence the operation becomes an heroic remedy for amaurosis when it arises from this cause. The following cases will illustrate this position.

Case 1.—A young man was admitted into the hospital at Lyons for a white-swelling of one of his fingers. He was also effected with an incomplete amaurosis of the left eye, which I could not trace to any of the ordinary causes. I remarked, however, that in certain movements of the eye there was always a tendency to a deviation inwards. Having repeated my observations during a month, I came to the conclusion that the spasm of the muscles exercised a great influence on the function of vision, and I determined to try the effect of dividing the two internal recti muscles. The sight of the left eye was immediately improved, and five weeks afterwards it was in every respect equal to that of the right one.

Case 2.—A youth, 17 years of age, was admitted with an injury of the middle finger which required to be amputated. The left eye had been for a long time almost completely amaurotic, so that he could not count my fingers held up before him; the blindness had come on without any appreciable cause.

In this case too I remarked that in certain movements of the eyes there was a tendency to them being turned inwards; and, acting on the principles which guided me in the treatment on the former occasion, I divided the two internal recti muscles. The amendment was instantaneous; and, on his leaving the hospital three weeks afterwards, the sight was so much improved that he could tell the names of large letters, and distinguish persons at a hundred paces' distance.

M. *Petrequin* states that he has met with equal success in a number of similar cases, since these two occurred.

He has also been led by several observations to conclude that *entropion*, in certain cases, arises from a spasmodic state of the *orbicularis* muscle of the affected eye, and that this species of the disease may be cured by the subcutaneous division of it, as recommended by MM. *Cunier* and *Phillips*. He gives the following case in which he performed the operation.

Case.—A man, 45 years of age, came to me with a complete entropion of the right eye; the lower lid was folded and rolled inwards, being curled upon itself in a concentric manner; precisely in the direction of the circular fibres of the palpebral muscle; when the finger was applied upon the part, the contraction was very sensible, epecially if a strong light fell upon the eye; the spasm was permanent. Stretching the lower eyelid at its outer angle with a pair of forceps, I passed a narrow bistoury about the middle part of the orbit, on the level of the osseous edge of the socket; then with a see-saw movement (par un mouvement de bascule) I pushed the point of the instrument as far as the free edge of the lid behind the orbicuralis muscle, and, in the act of withdrawing it, I divided its fibres completely. The lid becoming immediately echymosed—a firm compression was ordered to be kept up upon it. (The result of the operation is not stated.)

M. *Petrequin* closes his observations with mentioning that, in certain cases of blindness arising from opacities and other lesions of the cornea, in which the operation of making an artifical pupil is usually recommended, very decided benefit to vision may be obtained by dividing one of the muscles of the eye-ball, and thus inducing a certain degree of squinting, so that a transparent portion of the cornea may be brought into the axis of the organ. M. *Cunier* has the merit of having first suggested this new method of treatment; and M. *Petrequin* has adopted it in one case, where he divided the superior rectus muscle with marked advantage.

DIVISION OF THE MUSCLES OF THE EYE IN CERTAIN CASES OF BLINDNESS.

When the central portion of the cornea has become so opaque as to prevent the transmission of the rays of light through the pupil, remaining sound, we may displace the axis of the eye, by dividing one or more of its muscles, so as to induce a certain degree of squinting, and thus bring a transparent part of the cornea in the direct line of vision. Such an operation is much more simple, and greatly less hazardous, than any of the modes which have been proposed to form an artificial pupil.

M. *Florent Cunier*, a well known ophthalmic surgeon in Belgium, claims the merit of having first performed it.

A man, 25 years of age, presented himself on the 21st of June, at his ophthalmic institution, with a strabismus of the left eye, which had existed from infancy. When two years old, he had suffered from a purulent ophthalmia, which had caused the destruction of this eye, and had left on the cornea of the other a dense opacity, which covered nearly the outer two-thirds of its surface; the inner third, which remained transparent, was almost quite concealed in the angle of the orbit, and was visible at those times only when the squint was made to cease. When this was done he could see near objects, by carrying them towards the nose, and then turning the eye as forcibly as possible outwardly. The anterior chamber of the cornea was normal, and the pupil was quite free and readily contracted on exposure to light.

On the 30th of June I divided, says M. *Cunier*, the internal rectus muscle; and immediately the pupil occupied the centre of the orbit, and the squint vanished. The eye being, however, not sufficiently drawn outwardly to enable the patient to see objects conveniently, I denuded the sclerotic as far as the attachments of the superior and inferior recti, but without causing the slightest degree of squinting outwards. Founding my practice on the experiments made by myself and Mr. *Duffin*, I divided the inferior oblique muscle; this was no sooner done, than at once the eye was drawn outwards and somewhat upwards. The ecchymosed blood in the cutaneous wound was rapidly absorbed; but the healing of the conjunctival wound was rather tedious, in consequence of the very considerable retraction of the muco-serous membrane induced by the displacement of the eye-ball. Immediately after the operation, the patient was able to guide himself through my garden; and six days afterwards he came alone to my house.

He now sees so well that he can distinguish the smallest objects, when they are brought near his eye. What is remarkable is, that the pupil has become displaced in such a manner that is now immediately opposite to the transparent portion of the cornea.

Case 2.—A middle-aged man, who had been blind for twelve years, was my second patient. The left eye was completely wasted; and only a part of the outer half of the right one remained transparent. By compressing the left eye, and turning the right one forcibly inwards, he could perceive the form of large objects. I divided the external rectus muscle, and denuded the sclerotic as far as the insertion of the superior and inferior recti; the eye was immediately drawn inwards so as to cause a squint in that direction, and I was gratified to find that the patient was able to see much more distinctly. Eight days afterwards, he could spread out in the market-place his wicker-baskets, which he made to earn a subsistence.

In a third case, in which the operation for forming an artificial pupil had previously been attempted, but without success, M. *Cunier* divided the external

rectus; and, although the case was certainly a very unfavourable one, considerable improvement of the vision was effected.—*Gazette Medicale.*

Remarks.—This application of ocular myotomy is certainly one of the most ingenious and scientific that has been proposed. The operation for making an artificial pupil being always hazardous, and seldom successful, surgeons will gladly avail themselves of the practice suggested by their Belgian *confrere*. —(*Rev.*)

ON THE OPERATIONS FOR THE CURE OF STAMMERING.

A well written article, in which the reader will find an accurate description of the various operations which have been recommended and practised for the relief of stammering, appears in one of the late numbers of the Archives de la Medecine Belge (an exceedingly well-conducted periodical, published at Brussels,) from the pen of Dr. *Zoude*. We have no intention of re-producing its contents, however valuable they are as forming an historical document, and shall merely give the sensible conclusions with which the writer closes it: they are the following:—

1. Glossotomy is far from effecting a cure of stammering in all cases.
2. When stammering is owing to a disturbed innervation of the tongue, or when it depends upon a shortening of the muscular substance of the *hyo-glossi*, or upon other analogous lesions, myotomy is inapplicable; because, in such cases, it would be necessary to divide the entire thickness of the tongue—an operation which is always highly dangerous.
3. A surgical operation is admissible only when the stammering depends upon a shortening of the *genio-glossi* muscles—as certainly is the case in a great number of instances.
4. In my opinion, the subcutaneous method of dividing the *genio-glossi* close to their attachment to the jaw, without wounding the mucous lining of the mouth, is preferable to any other.

The following judicious remarks are appended to the memoir of Dr. *Zoude*, by the committee appointed by the Society of Medicine at Brussels to report upon it.

. . . . . "We have read the work of the honourable member with much interest, and recommend that it should be printed in our Archives as containing a fair account of all that has been written on this operation, (which, by-the-bye, has made much more noise than done good,) and as showing most satisfactorily that the section of the muscles of the tongue is not always so innocuous as its advocates wish us to believe. We sincerely trust that the attentive perusal of Dr. *Zoude's* memoir will abate the zeal of those who have been so enthusiastic in the praise of myotomy, by the vain eclat which has been given to the operation, and that, at the same time, it will diminish the willingness of patients to submit to it. We are deeply convinced that, as to the pretended improvements of modern surgery, it is most necessary to guard ourselves against admitting them too readily, and not to lose sight of the truth that the insatiable desire for notoriety and temporary success often makes a man work almost entirely for his own profit, when he is pretending that all that he does is for the progress of science: *Nisi utile est quod agimus, vana est gloria nostra.*"

We (*Rev.*) need not say how entirely we coincide in the justness of these observations. The *doings* of not a few medical men, in this country as well as on the continent, in reference to the treatment of squinting, stammering, &c., by surgical operations, have been any thing but creditable to the profession.

How is it, we would ask, that we have heard so little for the last six months of dividing the muscles of the eye for strabismus, while during the preceding half year every hebdomadal journal was teeming with *fournées* of marvellous cures? Is it that all squinting persons are already cured, and the catalogue exhausted? or is it that the relief produced by the operation has proved only temporary, or that the eye-ball has suffered in some other way from the effects of it?

As to the surgical experiments—for we can call them nothing else—for the cure of stammering, we have from the very first regarded them with suspicion, if not with utter distrust. Some of them, especially those proposed by *Dieffenbach*, and adopted by others, are positively brutal. The very idea of dividing the root of the tongue fairly across with a deep incision through its entire substance, and this, too, for an affection which is generally a nervous one, is worthy only of a butcher, whose province it is not to heal but to mangle.

By-the-bye, Dr. *Zoude* omits to mention, among the various plans of operating, that which has been so loudly praised by a resident in this city, Mr. *Yearsley*, and followed, if we could give credit to his statements, with such extraordinary success. We live in an age of discoveries truly; and certainly one of the most unlooked for is the almost instantaneous cure of stammering by clipping off a small bit of the tonsils or uvula! We read this gentleman's book on deafness, and do not hesitate to pronounce it a thorough *puff*. The materials are put together with a good deal of tact, so as to escape the imputation of quackery; but it is too obvious throughout, that it was got up as a mere means of public advertisement. It has, however, probably served the author's purpose; and he no doubt has had his reward. As conservators, however, of professional character, we feel it our duty to discountenance all such practices; as they only serve, in the long run, to bring contempt upon an art, which when followed with truth, kindness and skill, is, in the words of *Cicero*, almost godlike.—(*Rev.*)

ANIMAL MAGNETISM PROHIBITED BY THE VATICAN.

This marvel-working science is beginning to attract the notice of the heads of the Papal Church. We suppose that these gentlemen, who have the *cure* of souls, are somewhat jealous of any layman trespassing upon their peculiar province, that of working on the credulity of the mass.

Little would it surprise us to find that animal magnetism, although now forbidden to be practised by the uninitiated, will, at some future time, be taken up by the priests themselves, as a means of exciting the wonder and thus enhancing the zeal of their followers, while at the same time it magnifies their own authority.

However this may be, it has seemed right to the venerable conclave to pronounce against the lawfulness of the act in the present day.

The Bishop of Lausanne and Geneva, during the course of last May, addressed from his palace at Friburgh a letter to the sacred penitentiary at Rome, in which, after mentioning all the alleged marvels that have been wrought by animal magnetism—such as somnambulism or ecstatic sleep, clair-voyance or the power not only of seeing when the eyes are closed, but also of predicting events and other similar wonders—closes with these respectful interrogatories:—

"Perceiving strong reasons for doubting that such effects, produced by an occasional and manifestly a disproportionate cause, can be purely natural, I very urgently request your Excellencies to be pleased in your wisdom to decide, for the glory of God, and the advantage of souls redeemed by Christ, whether, supposing that the announced facts are really true, a confessor or a curate may permit any of his penitents or parishioners—

blood is poor and thin, the best authorities assure us that a long continued use of fish-liver oil exercises a very salutary influence. If this be the case, we can readily understand how it may act in the cure of scrofula, rickets, chronic rheumatism, inveterate affections of the skin, many diseases of the bones, glands, &c. We have already said that in our opinion the therapeutic properties of cod-oil cannot be justly attributed to the small portion of iodine which exists in it. We are quite aware that in many parts of Holland it is given for a length of time to children of a scrofulous family, to prevent the development of the constitutional affection, so common in that country.

But there is this marked difference between the two remedies; iodine, which is so powerful a remedy against enlargements of the thyroid and other glands, has very little effect in diseases of the bones, whereas it is in these intractable cases that the oil has been found to produce its most beneficial consequences. We are far from denying that the oil may owe part of its properties to the iodine contained in it, and that its action in simple scrofula and in amenorrhœa may depend upon this active principle; but how shall we thus explain its influence in rachitis?

We must here notice the opinion of M. *Hoebeke*, that a long use of fish-oil has in numerous cases been followed by a deformity of the pelvis in women, who had previously borne children without any unusual difficulty. In all his cases the deformity was observed to have affected chiefly the transverse diameter and the outlet of the pelvis—whereas that arising from rickets is usually at the inlet, and in an antero-posterior direction.

Now, although we do not dispute the accuracy of the statements of M. *Hoebeke* and others, we feel much inclined to question the explanation which they give, when they attribute the deformity of the pelvis in women, who had been previously well made, to their having taken large or long-continued doses of cod-liver oil. It seems to us more probable to suppose that the softening of the pelvic bones had been an accidental occurrence, quite unconnected with the use of this medicine. We know from the history of other cases that this disease of the osseous system often commences after delivery and not unfrequently during gestation; that its progress is always increased by the latter state; that it has many points of resemblance with chronic rheumatism; that it usually commences with pains in the back and pelvic region; and that it induces a deformation of the pelvis, which is different from that caused by rickets and similar to that observed by M. *Hoebeke*. The committee, appointed to report upon the memoir of this gentleman, very justly observed that in the district where his cases occurred, the climate was damp and unwholesome, and the inhabitants living in great destitution and poverty; that these causes must necessarily have produced great disturbance of the nutritive process; and that the circumstance of cod-liver oil having been taken by the women, in whom the deformity of the pelvis was observed, was probably a mere coincidence, and by no means the cause of the osteo-malacia.* This view is the more probable, seeing that this peculiar affection has not been observed in other districts, in which fish oil is largely used as a medicine.

Dr. *Delcour* has collected together a number of cases of genuine rachitis and of scrofulous disease of the bones of a very unfavourable character, in which the most marked benefit was unquestionably derived from the use of this remedy. The high authority of many of the reporters is a sufficient guarantee for the full accuracy of the statements, and we only regret that want of space prevents us from giving them here at length. When we mention that such a man as M.

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some of their criticisms, it must be acknowledged that the singular position, in which the author has placed himself in reference to the modern occult science, necessarily exposed him to the sharp attacks of reviewers.—*Bulletin Med. Belge.*

On the Medicinal Properties of Fish-liver Oil.

The fish, from the livers of which the oil that has at different times been much recommended in a variety of diseases is obtained, are the cod and one or two species of the ray—*oleum jecoris aselli vell rajæ.* We learn from M. *Tiedemann*, a merchant of Bremen who has long dealt in the article, that there are four kinds of cod-oil in commerce. The livers are packed in a cask, end upwards, and exposed for a length of time to the heat of the sun. When the upper layers are removed, the clearest oil is obtained; this is found to become stronger and darker towards the lower part of the cask. The darkest and thickest is used in the manufacture of chamois leather. MM. *Gouzée* and *Gmelin* state in their memoir (Bulletin Med. Belge, Janvier 1838), that the clearest oil should be used for internal administration; but MM. *Trousseau* and *Pidoux*, in their treatise on Materia Medica, recommend not only the second degree, which has a fishy taste and causes an acrid sensation in the back of the throat when swallowed, but also the third degree, obtained by boiling the residue, and which is of a brown colour, has a most disagreeable empyreumatic smell, and is still more acrid. The opinion of these gentlemen has been confirmed by the experience of most physicians in Germany and Belgium—that the thick acrid oil is much more efficacious than that which is transparent and milder.

Within the last five years, chemical analysis has detected the presence of a small proportion of iodine in fish-liver oil; but it is very doubtful that its medicinal virtues depend upon this principle. However this may be, it is certainly true that the browner the oil is, the more iodine is usually present in it.

That fish oil has been long known as a remedial agent, is proved by the narrative in the Apocryphal book of the Bible of *Tobias* and the Angel: *Tobias* is ordered to take the heart, liver, and gall of the fish that he has caught on the banks of the Tigris, and use them in a prescribed manner. *Pliny* too, in his Natural History, expressly states: "lichenes et lepras tollit adeps vituli marini, murœnarum cinis cum mellis obolis ternis, jecur pastinacæ (raiæ) in oleo decoctum. . . . . Quidam delphini jecur in fictili torrent, donec pinguetudo similis oleo fiuat, ac perungunt." The inhabitants in many parts of England, Holland, and Germany have been from time immemorial in the habit of employing cod-liver oil in the treatment of chronic rheumatism, rachitis, &c.; but it was not until *Michaelis* about the middle of the last century, and subsequently Dr. Percival (1790) and Dr. Darbey (London Medical Gazette, vol. 3, p. 392), drew the public attention to its effects, that it has been at all generally known to medical men. There are numerous reports of its efficacy in the German Journals, references to all of which are given by Dr. *Delcour* in the number of the Archives de la Med. Belge, for last June.

The physiological effect of fish-liver oil appears to be that of a general stimulant of the whole body. It is apt to produce nausea and even vomiting at first; but after a short time it ceases to do so, and often the appetite very sensibly improves under its use. The urinary secretion is generally increased in quantity, and often a copious deposit of lateritious sediment takes place. The skin and also the uterus are stimulated by its use; hence its utility in several cutaneous diseases and in amenorrhœa. From its established efficacy in scrofulous and other cachectic states which indicate an unhealthy state of the nutritive process, it has been regarded by many as a general roborant, more especially of the alimentary canal and of the lacteal and vascular systems. In most cases where the

blood is poor and thin, the best authorities assure us that a long continued use of fish-liver oil exercises a very salutary influence. If this be the case, we can readily understand how it may act in the cure of scrofula, rickets, chronic rheumatism, inveterate affections of the skin, many diseases of the bones, glands, &c. We have already said that in our opinion the therapeutic properties of cod-oil cannot be justly attributed to the small portion of iodine which exists in it. We are quite aware that in many parts of Holland it is given for a length of time to children of a scrofulous family, to prevent the development of the constitutional affection, so common in that country.

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Bretonneau has been convinced from the results of his own experience of the efficacy of the remedy, we need say nothing more.

As to its effects in inveterate rheumatism, especially when this occurs in a lymphatic and weak habit of body, our author remarks: "There is not a practitioner at Verviers, where chronic rheumatism complicated with scrofula is exceedingly common, who has not had occasion to observe the admirable effects of cod-oil in such cases. By its use a number of persons, who for a length of time had been almost paralytic and martyrs to protracted suffering, have been not only relieved, but perfectly restored to health. Like every other remedy, it does not succeed in all cases; but it has the advantage of being never hurtful. We again repeat that it is much more efficacious in weak than in robust plethoric constitutions."

M. *Tauflieb* has recorded in the Gazette Medicale for Nov. 1839, two most interesting cases, in which patients, who had been quite helpless and bedridden for several years in consequence of the swelling and stiffness of their joints, regained, after five or six months treatment, the complete use of their limbs.

Professors *Graefe* and *Ammon* have used the oil in several cases of obstinate rheumatic ophthalmia with decided advantage. Their report will be found in the Ophthalmological Journal of the latter for 1832. M. *Carron de Villards* speaks favourably of it as an application to specks and ulcers of the cornea, unaccompanied with inflammation; and the editor of the Archives de la Med. Belge has given a most favourable report of it in such cases, in the Annales d'Oculistique.

The dose of the cod or ray liver oil is from two to four table-spoonfulls for an adult, and as many tea-spoonfulls for children, in the course of 24 hours: the patient should close his nostrils, when he swallows it. To counteract the unpleasant eructations, a small portion of anisette, or of rum or brandy, may be taken immediately afterwards. If the mouth be previously gargled with any of these liqueurs, the taste of the oil will be much disguised. Dr. *Fehr* recommends the following formula for children: of cod-oil an ounce, of subcarbonate of potash one or two drachms, of oil of the calamus aromaticus three drops, and of syrup of orange-peel one ounce—one or two spoonfuls for a dose night and morning. Or an emulsion may be made by triturating the oil well with gum, sugar and water. When the stomach will not retain it, it may be administered in the form of enemata; and this mode of exhibition has succeeded in a good many cases."—*Archives de la Med. Belge, Juin* 1841.

Remark.—The use of cod and other fish oil is scarcely known as a remedy in this country, at least by medical men. We have indeed heard of cures being effected with it by extra-professional *doctors* in cases of obstinate rheumatism, and affections of the joints, &c., which had baffled the regular practitioner; and we see no good reason why the latter should not avail himself of a new remedy, when those in ordinary use fail, merely because it is a favourite with some empirics. There can be no doubt that fish oil must exert no inconsiderable effects on the system, independently of the iodine which it contains; its penetrating balsamic properties seem to be somewhat analogous to the class of the terebinthinate medicines, most of which are recognised to be most rapidly absorbed, and pervade every organ and part of the body. Those, who may wish to have more details on the subject will do well to consult the memoir from which the preceding observations have been extracted.—*Rev.*

PHTHISIS PULMONALIS, WITH A FISTULOUS OPENING IN THE PARIETES OF THE CHEST.

The following case, exhibiting a very rare complication of phthisis, deserves the notice of the pathologist.

A man, 38 years of age and who for a length of time had been extremely subjected to attacks of catarrh, was seized in May, 1839, with pneumonia; this yielded to active treatment, but their remained behind a dry cough, and feverish state, accompanied with frequent chills. In the beginning of July, a phlegmonous swelling made its appearance immediately below the right mamma: it gradually increased in size, and, as a fluctuation became distinctly perceptible, an opening was made into it and gave issue to an enormous quantity of a purulo-sanguineous fluid of a suffocating odour. This discharge continued night and morning usually to the amount of three or four ounces; the opening was situated between the fourth and fifth ribs.

For three weeks there was no reason to believe that a communication existed between the outward orifice and any of the bronchial tubes; but on the 20th of August, it was observed for the first time that air escaped with a bubbling noise during the act of expiration, and when the patient coughed or spoke. It was easy to trace, by listening to the direction of the cavernous *souffle* which was very distinct, the course of the fistula inwardly. The pectoriloquy also was so loud that it seemed as if the patient spoke directly into the ear of the auscultator. Two months subsequently, a second opening between the fifth and sixth ribs was formed, and gave issue to a purulent discharge mixed with air. In the first week of December, the patient expectorated for the first time a small quantity of purulent sputa. There commenced also at this time occasional attacks of orthopnœa; but the breathing during the intervals was not much distressed: the emaciation was extreme. A remarkable feature of the case was an exceedingly constipated state of the bowels, with an almost voracious appetite. On the 9th of January, the fifth rib was nearly exposed for about two inches in extent, being covered only by a few pale granulations; the quantity of the discharge by the wound continued as before; but the expectoration had quite ceased. The denuded portion of the rib became necrosed, and was gradually detached in small pieces. The patient died exhausted on the first of April.

(We suppose that a dissection was not permitted, as there is no mention in the report of the appearances after death.)

Remarks.—It is doubtful whether the formation of the abscess in the parietes of the chest was the effect of the pulmonic lesion extending itself towards the surface, or whether it was not rather a simultaneous disease developed accidentally over the situation of the cavern in the lungs. The circumstance of no air being observed to escape for three weeks after the opening of the abscess may lead us to adopt the latter opinion.—*Archives de Medicine Belge.*

We observe that M. *Raciborski* recently exhibited to the Royal Academy a case in which a tuberculous excavation of the lungs communicated with a subcutaneous *foyer*. The disease, says that gentleman, seems to be confined to a point of the left lung over the fourth or fifth rib; the respiratory sound being normal over the whole of the front of the chest. Over the spine of the clavicle and near the root of the bronchi, a loud gurgling noise is heard, especially during the fits of coughing. The pulmonic abscess communicates with the subcutaneous cellular tissue at this part, and the skin there is observed to be distinctly lifted up during each fit of coughing. By applying the hand over the part not only may this rising of the skin be perceived, but a sensation of the displacement of a fluid may also be felt. Compression causes the swelling to disappear, and occasions a peculiar sound arising from the retrocession of the air, and fluid. —*Rev.*

M. RAYER ON CERTAIN LESIONS AND MORBID FORMATIONS IN THE KIDNEYS.

In the last and present numbers of this Journal we have reviewed at considerable length the practical parts of M. *Rayer's* important work on the diseases of the kidneys.

To complete the analysis, we have selected for insertion here some of the more rare lesions to which those organs are subject, in order that our readers may have a full summary of the three volumes.

We begin with—

Renal Fistulæ are the consequence of suppuration of the pelvis and calices of the kidney—induced, in the majority of cases, by the presence of impacted calculi,—when there is some obstacle to the passage of the pus along the ureters. The ulcer may open either into the extra-peritoneal cellular substance, or into the colon or duodenum, or into the cavity of the peritoneum, or even of the pleura, or it may make its way to the surface through the lumbar muscles, or in the groin.

The fistulæ are seldom numerous; in a few instances, however, M. *Rayer* has seen the posterior surface of the kidney, lodged in a vast purulent hollow, quite like a sieve, from the number of perforations which it exhibited.

When the fistula opens outwardly, the purulent discharge is sometimes found to be mixed with urine. A similar occurrence has occasionally been witnessed when the abscess has established a communication with any portion of the bowels.

In some cases, a renal fistula has been known to remain open for months or even years; and in others it has healed up very quickly, after the escape, spontaneous or by operation, of one or more calculi.

Besides the presence of calculi, wounds and contusions of the loins have been known to give rise to the formation of renal fistulæ. *Dessault* has recorded a case in which the disease seemed to have been induced by an impediment to the free discharge of urine from the urethra; the patient did well after the urethral obstruction was entirely removed. *Chopart* relates a case, in which a renal fistula, from which a calculus was extracted, communicated with an abscess in the corresponding groin. M. *Cruveilhier* met with a curious case of a woman who died from hectic fever, the cause of which could not be ascertained during life: on dissection the two kidneys, joined together, were found lodged in the pelvis, and contained a quantity of pus, part of which had made its way into the rectum. In a very few instances, renal fistulæ have been found to have communicated with the lungs; four such cases are related by M. *Rayer*. One of them occurred in a man, who, many years before, had been cut for the stone. He had frequent attacks of severe pain in the left loin, and the urine was sometimes strongly purulent. An attack of purulent expectoration came on very suddenly, with marked relief to the renal symptoms; but, as may be anticipated, he died soon afterwards. On dissection, a communication was traced between the pelvis of the kidney, which contained a quantity of pus, and also a calculus, and the bronchi of the left lung.

Hydronephrosis, or Dropsy of the Kidneys.

When the urine slowly accumulates in the kidneys, in consequence of some obstruction to the free escape of the urine into the bladder, or to its discharge by the urethra, it sometimes happens that the pelvis and calices gradually become more and more dilated, without any sensible inflammation of their parietes. Such a collection of a watery fluid, at first urinous and subsequently assuming a serous character, has been denominated hydro-nephrosis. The distention is at first

limited to the pelvis and calices of the affected kidney: but gradually its parenchymatous substance becomes as soft and yielding as the coverings of a cyst. In some cases, one or both kidneys have been found transformed into enormous pouches, on the surface of which were observed little islands, so to speak, of the renal substance.

The openings of the calices into the pelvis of the kidney may become obstructed or obliterated, and give rise to dilatations, partial *hydronephroses*, or sorts of urinary cysts. This alteration is very rare in men; but common in cattle.

In the majority of cases, the lobular cysts in the kidneys of the ox have this origin. Occasionally they become exceedingly large, so as to even exceed the size of a child's head.

When the accumulation of fluid in the kidney becomes considerable, there is usually a more or less distinct and prominent swelling in the corresponding lumbar region. This sometimes gives the sensation to the finger of a distended intestine.

However strange it may appear, it is quite true that the abdomen has been known to become so immensely distended by watery distention of the kidneys, that the patient has actually been supposed to have been pregnant. In one case, the swelling formed by a distended kidney was mistaken for a dropsy of the ovarium.* From a comparison of the cases of dropsy of the kidney on record, it appears that both organs are more frequently affected at the same time with the disease than only one. M. *Piorry* showed his pupils, in 1832, a kidney that had become so enlarged in dimensions that it measured a foot in length, and five or six inches across; the disease was the result of the ureters being obstructed by a calculus.

Cancer of the uterus seems to be a not unfrequent cause of obstruction of the ureters, and consequent hydro-nephrosis of the corresponding kidney.

Cysts of the Kidneys.

These are small accidental vesicles or sacs which may contain not only a fluid, which is sometimes partially urinous, but also hydatids, &c. They are of not unfrequent occurrence, and may be classified in three groupes—simple cysts, acephalocystic, or hydatidic cysts, and urinary cysts. The first sort is much more frequently met with than the other two. They usually contain a slightly yellowish fluid, which is generally albuminous and somewhat saline. Occasionally the contents are more or less decidedly gelatinous, or even still more consistent.

These cysts may be found in the cortical substance of the kidney, in the cellular tissue enveloping the renal vessels, or in the tubular substance of the organ: the former situation is the most common. These formations seem to be often induced by inflammation of the kidney. But in some cases vast numbers of them are developed without any antecedent disease. M. *Rayer* has represented in his Atlas one case in which the cysts were so numerous that the renal substance was completely disorganised. The same result, atrophy of the kidneys, has been induced by the formation of large cysts in the cellular tissue which invests the renal blood-vessels.

Cases of remarkable encysted degeneration of the kidneys have been recorded by *Hufeland*, *Howship*, *Bouillaud*, &c. In one instance, which occurred in a

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* *Frank* alludes to a case in which the left kidney had become so enormously dilated, that upwards of sixty pounds of fluid was contained in the sac; the parenchymatous substance had entirely disappeared, and nothing but the enveloping membranes remained. The specimen is preserved in the Anatomical Museum at Vienna.

man who had suffered several times from nephritis, both kidneys were found on dissection to be as large as the head of a new-born child. The right one extended into the epigastrium behind the stomach, and descended below the cæcum; and the left one extended upwards to the diaphragm, and down as far as the iliac region. The surface of both kidneys was covered with numerous vesicles of various shapes and sizes; their contents being in some limpid, in others yellowish, and in a third set dark and semi-purulent. No trace remained of the cortical substance, and all that could be detected was a portion of the calices, which by their union formed the pelvis: these parts, as well as the ureters and the bladder, were perfectly sound, and contained no calculus.

The second kind of renal cysts, the hydatidic, are much more common in some of the lower animals, especially the sheep, than in man: in the former they are usually single, in the latter multiple. When these cysts have attained a large size, they have been known to occasion so distinct a swelling in the lumbar region as to be discoverable by the hand. The cysts usually contain a number of minute ones, which are either floating about in the fluid, or adhering to their walls. In the sheep, many of the cysts become at first encrusted with, and subsequently converted into chalky formations, these may be sometimes enucleated entire from the surrounding parenchyma of the affected organ. Occasionally the transformation is rather of an osseous than of a cretaceous character. The hydatidic cysts sometimes burst and open into the calices or pelvis or the kidney; and then some of the hydatids may be discharged with the urine.

When one or more hydatids have been passed in this way, should fresh pains in the renal region, or along the course of the ureters, come on, we may presume that new acephalocysts will be voided either alone or along with coagula of blood or with calculi. In a few very rare cases, the cysts have become inflamed, and have at length formed a communication outwardly in the loins.

The internal use of turpentine has seemed in some cases to have been useful in promoting the expulsion of the hydatiferous cysts.

Dr. *Weitenkapf* has published an account of a case which occurred a few years ago in his practice, and in which the patient passed on some occasions as many as 50 or 60 hydatids with the urine at a time; the hydatids were of that kind called *cystocerci:* some of them were alive when discharged. In a similar case, which is recorded in *Chopart's* work, the left kidney was found on dissection converted into a large membranous sac, which was filled with a number of hydatids of different sizes and forms. In the Bibliotheque Medicale for 1814 we find the following curious details of a case, in which an abscess formed in the loins, and discharged a number of hydatidiform cysts. A man, 68 years of age, had been long subject to wandering rheumatic pains, which at length fixed in the left thigh and leg. A small swelling made its appearance in the left groin; but for some years it gave little uneasiness to the patient. When it acquired a considerable size, it was accompanied with deep seated pains, which appeared to extend to the left loin. In the course of a few days it disappeared, and a large abscess was formed in the lumbar region. For about a month this gave rise to severe pain; but at length it burst and gave issue to an enormous quantity of matter, in which were observed several bladder-like bodies, some of which were very small, and one or two as large as a pigeon's egg. For several successive days, a number of these vesicles were discharged from the wound in the loins. At the expiry of six weeks the wound was cicatrised, and the patient had quite recovered.

Worms in the Kidneys.

Although frequent mistakes have been made by describing, as worms voided with the urine, portions of albumen and of coagulated blood, or the larvæ of insects which had been accidentally in the urinal at the time of making water,

there is now no doubt that, in a few instances, worms have really been discharged from the urethra. Three kinds have been observed—the *strongylus gigas*, the *spiroptera hominis*, and the *dactylius aculeatus*. Besides these, intestinal worms have occasionally been known to make their way into the urinary passages, and to be voided with the urine.

The *strongylus* has been found not only in the human subject, but also in the kidneys of the dog, the wolf, the horse, and the seal. *Ruysh* says: "in renibus humanis semel eos me vidisse memini, quales in canum renibus longe frequentius occurrunt."

One of the most curious cases is related in the Journal of Medicine and Surgery for July, 1758. A child, nine years of age, who had been cut for calculus four years before, was suddenly seized with retention of urine, accompanied with most severe pain in the right loin, numbness of the thigh on that side, hiccup, vomiting, &c. He was bled, put into a warm-bath, had an anodyne lavement, &c. Not more than a small cupful of thick turbid urine came away by the catheter. The active symptoms continuing, the bleeding, &c. required to be renewed; the urine was still very scanty and deep-coloured. The right loin now became puffy and swollen, and at length a feeling of fluctuation was indistinctly perceptible in the part; the patient having previously had repeated attacks of shivering. After the use of poultices had been continued for some time, a deep incision was made upon the most prominent part of the swelling: a large quantity of pus, mixed with sanguineous shreds, flowed from the opening. The discharge continued for some months; during several weeks it was tolerably healthy, but afterwards it became thin and ichorous. A variety of means were tried to improve its character, and to induce the healing of the wound; but every thing seemed to fail; and the surgeon recommended that nothing else should be done, except to keep it clean, and apply any mild application to it. Some months afterwards he was surprised to find that the wound had entirely healed, although the patient's general health was by no means re-established. But this state of things did not continue long; for again he was seized with rentention of the urine, accompanied with excessive pains, and an insupportable sense of weight in the loins. On examining the wound, the surgeon felt a fluctuation upon pressure; an incision was made, and a quantity of purulent matter discharged, with immediate relief to all the distressing symptoms. Once more the wound healed; and some time afterwards a similar train of suffering supervened, and was relieved in a similar way. The urine was sometimes purulent, and almost always more or less filamentous. The fistulous ulcer had now continued, with occasional closures, for nearly three years, when the surgeon, suspecting that the excruciating pain which his patient suffered, and the frequently recurrent attacks of ischuria proceeded from the lodgment of a small calculus at the bottom of the wound, proposed that a deep incision should be made in hopes of extracting it. Before this was assented to, the mother of the boy was surprised to find one evening a living worm in the wound; she drew it out with her fingers, and fortunately preserved it. It was about five inches long, of a greyish colour, and as thick as a common quill. A second worm, rather shorter and smaller than the other, was extracted by the surgeon himself in the course of the following day. Two days later, the boy was suddenly seized with ischuria; and, as there was much distention and pain in the hypogastrium, it was suspected that the bladder must be full of urine. On attempting however to introduce a catheter, a complete obstruction was experienced at the cervix. After several ineffectual attempts to get it into the bladder, the boy was put into a warm bath; but, while in it, he was seized with such violent convulsions, that it was necessary to take him out. Judge of the surprise of the surgeon, who was about making another attempt to pass the instrument, when he observed at the opening of the urethra a foreign substance, which, upon being drawn out, proved to be a living worm, similar in size and appearance to the first one that

had been taken from the wound. In the course of the following night, another worm was discharged from the urethra. From this time the ulcer in the loins began to discharge less and less, and gradually healed up. The urine, which now recovered a healthy appearance, occasionally contained filaments and membranous shreds, which were perhaps the debris of the cyst in which the worms had been contained. The boy was ultimately restored to perfect health.

Another remarkable case is related, in which an abscess made its appearance in the lumbar region and burst. It did not show any tendency to heal, and the patient gradually became hectic and a length died. It is mentioned in one part of the report that, after taking some brisk purgatives, the woman had passed a dozen of worms—the kind is not stated. On examining the abdomen after death, it was found that the right kidney had become united to the liver; on cutting into it, there was discovered not only a large calculus imbedded in its substance, but also three living worms—each of them about three and a half inches long.

The number of worms, which were passed in the extraordinary case related by Mr. Lawrence, in the second volume of the Medico-Chirurgical Transactions, is estimated at between 800 and 1,000: they were of the sort which has been called *spiroptera* by *Bremser* and *Rudolphi*.

Mr. *Curling*, assistant-surgeon of the London Hospital, has recently published a case of a girl who voided from the urethra a number of entozootic worms, not hitherto described, with an account of the animals in the 22nd volume of the same work. Mr. C. proposes the name of *Dactylius aculeatus* for this species of worm.

Foreign Bodies and Irregularities in the Kidneys.

Besides Calculi, effused blood, and worms, foreign bodies admitted from without have occasionally been found in the substance of these viscera. A ball, or a piece of wadding or of cloth, has been extracted, either during the life or after the death of the patient; and, in a few rare instances, a small irregular mass, formed by one of the latter substances, has actually made its escape from the urethra, several weeks after the receipt of the musket-wound in the loins. On the other hand, an ear of corn, introduced by the urethra, has been known to find its way along the urinary passages and make its exit in the loins; and several cases have been recorded of needles, which had been swallowed, being voided with the urine.

There is sometimes a third or supernumerary kidney present; but a much more common anomaly is the existence of only one kidney. References to an immense number of such cases are given by M. *Rayer*. Both kidneys are sometimes altogether wanting in certain cases of monstrosity; and, if we could give credit to the accuracy of the examination that was made in the case related by M. *Moulon*, in the 17th volume of the Archives Generales de Medecine, we must believe that there was a complete absence of these organs in a girl who lived till she was fourteen years of age. There had been, during life, a constant oozing from the umbilicus of a fluid which had a very strong urinous smell. M. *Moulon* suggests that, in the absence of the urinary apperatus, the principles of this secretion were eliminated by the liver, and conveyed by the umbilical vein to the umbilicus, at which point they were discharged.

If this very extraordinary fact can be credited, we might find less difficulty in accounting for certain cases of *anuria* of several months' continuance, according to the testimony of several authors. Thus, in the Medical Journal that was edited by MM. *Corvisart*, *Leroux*, and *Boyer*, there is related an instance, in a young girl, of suppression of the urine which lasted for 17 months: the secretion returned after this period.

M. *Rayer* seems to think that the case narrated by M. *Moulon* was one of ex-

trophia of the bladder, and that the kidneys, from being displaced, perhaps in the pelvis, were probably overlooked.

The two kidneys have often been found fused, so to speak, together, and forming a sort of horse-shoe viscus, situated right across the vertebræ.

We have already alluded to their occasional displacement within, or on the edge of, the cavity of the pelvis; where they might be mistaken for a tumor of the ovarium, uterus or rectum.

Mobility of the Kidneys.

There is a peculiar state of the kidneys in which these organs are capable of moving in different directions, as upwards towards the liver, or forwards and downwards. This state may become the cause of various distressing symptoms; more especially constant pains in the abdomen and the corresponding lower extremity, which are apt to be mistaken for colic or neuralgia. It is now a long time since I, says M. *Rayer*, first pointed out this peculiar affection to my colleagues at La Charité Hospital, MM. *Velpeau* and *Gerdy*, and showed them several instances of it. Two cases occurred in the persons of medical men, who had long been suffering from pains in the right flank where they had felt a moveable tumor, which had greatly perplexed their friends as well as themselves.

M. *Rayer* candidly acknowledges, that references to this peculiar state of the kidneys are to be found in the writings of some of the older authors, and quotes a passage from the work of Riolan, published in 1082, in which there is a very accurate description of it.

He (M. *Rayer*) relates four cases.

In the first, the right kidney could be distinctly felt; it was so moveable that it could easily be pushed on near to the umbilicus, and then back under the edge of the liver. The woman complained of an uneasy dragging feeling in the loins and round the abdomen. She experienced considerable relief from a bandage applied firmly round the stomach.

In the second case, a tumor was felt under about the middle of the anterior edge of the liver. A variety of applications, including a moxa, had been tried, in hopes of dispersing it. M. *Rayer* attentively examined her, and, as the abdominal parietes were very lax, he could easily distinguish the size and shape of the tumor; it descended as low as nearly to the level of the umbilicus, but with gentle pressure it could be pushed upwards and backwards under the edge of the liver. He was convinced that it was in truth the right kidney.

An interesting case, which had occasioned great discrepancy of diagnosis among several medical men, is recorded by Professor Aberle of Saltzburg. A middle-aged man had long suffered much from dyspepsia and hypochondriasis. What, however, distressed him most, was a firm tumor, rather larger than a hen's egg, situated in the epigastric region; by firm pressure on the flanks, it became much more prominent and distinct.

He died from an attack of apoplexy; and, on dissection, it was found that the tumor was formed by the right kidney, which was so moveable that it could be readily pushed forwards almost as far as the umbilicus. There was no other abnormal character of the urinary organs.

M. *Rayer* assures us that mobility of the kidneys, usually the right one, is far from being uncommon, although hitherto the circumstance is not even known to almost any medical men.

It is much more frequently observed in women than in men; and is very often co-existent with an enlargement of the liver, or with some displacement either of some portion of intestine, or of the uterus. Repeated gestation, the of heavy weights, &c. seem to have given rise to it in some instances.—*des Maladies des Reins.*

Clinical Review.

GUY'S HOSPITAL.

Guy's Hospital Reports. No. XIII., October, 1841. Edited by George H. Barlow, M.A. & M.D., Trinity College, Cambridge; and James P. Babington, M.A., Trinity College, Cambridge.

The present number contains fewer papers than some of its predecessors have done. The contents are as follows:—

Observations on certain Diseases originating in Early Youth; illustrated by Cases of defective Expansion of the Lungs; by George H. Barlow, M.A. & M.D.:—Medico-Legal Report of the Evidence given on a recent Trial for Murder by Poisoning with Arsenic; by Alfred S. Taylor:—A remarkable Case of Abdominal Effusion, resulting from Mesenteric Tumor; by H. Marshall Hughes, M.D. With Observations on the Effused Fluid, by G. Owen Rees, M.D.:—On Acute Aortitis; a Portion of an Essay read before the Physical Society at Guy's Hospital, Jan. 13, 1838; by Norman Chevers, M.D.:—Cases of Malignant Disease of the Lung; by H. Marshall Hughes, M.D.:—Reports of Cases requiring Capital Operations, which have been performed since Oct. 1, 1840, by Bransby B. Cooper, Esq., F.R.S.:—On the Structure of the Blood Corpuscle; by G. Owen Rees, M.D., and by Samuel Lane:—Account of a Patella broken transversely, and re-united by Bone. With Remarks on the Nature and Treatment of similar Injuries; by T. Wilkinson King. (With plate):—A Case of Intestino-Vesicle Fistula; by Mr. Hingeston. Communicated by Mr. C. Aston Key. (With plates):—On Chorea; by B. G. Babington, M.D., F.R.S.

I. Observations on certain Diseases originating in Early Youth; illustrated by Cases of Defective Expansion of the Lungs. By George H. Barlow, M.D.

Dr. Barlow remarks.—

"There is, I think, one consideration connected with the ætiology and treatment of a large class of chronic and organic diseases, which, although it can not have escaped the notice of any practitioner of experience and observation, does not appear to have received that attention which its importance seems to demand;—I mean, the occurrence of disease arising from a want of proportional development in some of the organs of the body; by which, either, other organs are excited to undue activity, leading to their excessive development and ultimate disorganization; or, serious, and sometimes fatal, disturbances are produced in the current of the circulation.

The deviation from the normal proportion, to which I more particularly allude, exists in the lungs, the liver, and the two sides of the heart; and its first commencement, or, at all events, its first manifestations, may generally be traced to the period of early youth; when, owing to the increasing proportion of those parts whose blood is returned to the heart directly by the venæ cavæ, to those which return it through the medium of the portal system, a corresponding change takes place in the relative volume and functions of the liver and the lungs; the latter being developed, as it were, at the expense of the former. When the lungs and heart are sound, the air-passages unobstructed, and the capacity of the chest

sufficiently ample, this change is effected with safety; and that full expansion the chest is the result, which the artist, as well as the physiologist, has alw regarded as indicative of health and vigour. But if, on the other hand, the pansion of the lungs be impeded, either by a want of capacity in the chest, narrowing or obstruction of the principal air-passages—or if the lungs be sound—or if the circulation be disturbed by disease in the heart, or a want due proportion between its different cavities and its different orifices—or if extremities be too rapidly developed—the consequence must be, either, that t change which should now take place is prevented, and the liver retains its orig nal proportion to the rest of the body, the result being a tumid abdomen and co tracted chest, with imperfect respiration, and stunted and often œdematous extr mities—or, that the lungs suffer, either from undue accumulation of blood, or fro the excess of function which they may be called upon to perform—or the heart b comes embarrassed, and ultimately diseased, by obstruction to the current of th circulation."

Dr. Barlow, however, confines his present paper to those cases in which the expansion of the lungs is impeded either by contraction of the chest or defect in the principal air-passages.

The first case is given at great length. Its nature may be guessed from the following summary of its particulars—dyspnœa first becoming urgent about the age of 11—palpitation, ascites, and anasarca—checked growth—partial recovery —occasional relapses—severe return of symptoms at the age of 15—no signs of puberty—death at the age of 16—distention and hypertrophy of the right side of the heart.

In some observations on the case, which is much too long for insertion, Dr. Barlow develops his ideas upon its nature. He says that the prominence of the heart symptoms during life and its enlargement discovered after death, must not be regarded as the source of the mischief.

"It appears," he remarks, "that up to the age of 10 or 11 years, this patient had enjoyed good health, so that there could not have existed any abnormal condition of the heart before that time; whereas the healthy state of the valves, and the absence of all traces of any inflammatory affection of either surface of the heart, leave us without any assignable cause, referrible to that organ, for the hypertrophy which was afterwards found to exist; the change being, in fact, just such as might be expected to result from obstruction to the passage of the blood from the heart. And further, the hypertrophy and distention existing in so much greater a degree on the right side, shows that this obstruction must have existed, for the most part, between the right and left heart; namely, in the pulmonary circulation. If, moreover, we refer to the history of the case, we shall find abundant evidence of the existence of such obstruction, in the dyspnœa, the lividity of the countenance, the narrowness of the chest, and the dropsical effusion observed during life; as well as in the compressed state of the lungs, the congestion of the liver, the narrowness of the pulmonary artery, and the enormous distention of the right auricle and ventricle, which were found after death.

But, although the obstruction to the passage of the blood through the lungs must act immediately, and therefore with the greatest effect, upon the right side of the heart, yet the obstruction thus afforded to the return of the blood through the systematic and portal veins must increase the difficulty with which the blood passes into the veins from the arteries, and in this manner call upon the left ventricle for an additional effort; and consequently give rise to distention there, though in a much less degree than on the right side of the heart. It appears, then, that we have a cause adequate to the production of the abnormal state of the heart; and, moreover, have satisfactory proof of the existence of that cause."

We find in the account of the dissection of the case, that the left auricle was ted and hypertrophied, but in a much less degree than the right. When the

auricle was laid open, the auriculo-ventricular opening was seen, of the size of a shilling. The curtains of the mitral valve were very slightly thickened, and contracted. The cavity of the left ventricle was large, and its walls rather thickened.

It appears to us, if we rightly apprehend Dr. Barlow's statement, that there was narrowing of the left auriculo-ventricular opening. If this were so, it would go to explain much of the case and rather militate against Dr. Barlow's observations.

The Second Case was one of *Dyspnœa first becoming urgent about the age of* 15—*Bronchitis—Lividity—Palpitation—Severe aggravation at the age of* 18—*Anasarca—Ascites—No signs of Puberty—Death.*—Like the former, it is reported too much at length for insertion. But the observations of Dr. Barlow upon it will convey his ideas to our readers.

"In this case, as in the last, there can, I think, be little difficulty in accounting for the more urgent symptoms, by the obstruction to the return of the venous blood; of which sufficient evidence is afforded by the distended state of the right auricle.

The action of this obstruction, in producing venous congestion as well in the system generally as in the portal circulation, and thereby giving rise to lividity, anasarca, and ascites, is too obvious, and too generally acknowledged, to be here insisted upon. The next point, then, is the cause of the distention found to exist in the right auricle. This was obviously the effect of the opposition offered to the passage of the blood from the auricle to the ventricle, and to the regurgitation which no doubt took place through the tricuspid valve; and here also, as in the former case, the condition of the right ventricle is to be accounted for by the distention arising from the obstruction to the passage of the blood from the right side of the heart; for which we have a cause, in the smallness and diseased condition of the pulmonary arteries. Was then the defect, primarily, in the pulmonary arteries? or must we still seek for some anterior cause? Now, upon a reference to the first case, we find a small trachea and bronchi: small chest; tough and fleshy lungs; with enormous dilatation of the right ventricle and auricle, and patulous tricuspid valve: in the second, we have a similar state of things, as regards the lungs and walls of the chest; with the addition of the disease of the pulmonary artery, and the dilatation of the bronchial tubes; the condition of the walls of the right side of the heart was nearly the same in both cases, though the dilatation and hypertrophy existed in a greater degree in the first than in the second. On the left side there was considerable disease of the mitral valve, in the second case, though but little, if any, in the first. The identity of the lesion, therefore, as regards the right heart, (the difference in the two cases being only in degree,) naturally suggests the idea of an identity of cause; and in seeking for that cause, we are, I think, justified in rejecting as adventitious what was found only in the second case, namely, the disease in the coats of the pulmonary arteries and mitral valve; and retaining, as essential, what was common to both, namely, the obstruction offered by the compressed state of the lungs, and narrowness of the pulmonary arteries.

The next question which arises is: are these conditions of the lungs and pulmonary artery to be regarded in the light of cause and effect; or as the collateral effects of some anterior cause, to be sought for hereafter? Now, reasoning from analogy, we should, I think, be led to the conclusion, that the diminished calibre of the artery was the result of the diminished capacity for blood of the part supplied by that artery, as is seen in the case of the contraction of an artery above a ligature: in the variation in size of the spermatic and uterine vessels; and in other instances, which it would be superfluous to enumerate.

We come next to the inquiry, Whether the ill-developed condition of the lungs was the primary disease? or, Whether either of the two other circumstances observed in both cases, namely, the diminished capacity of the chest, and the

diminished calibre of the trachea, should be regarded as an anterior cause! Now, as regards the first, it is, I think, agreeable to the analogies which might be drawn from other parts of the body, to suppose that the softer and more important part gives form to the harder and less important, rather than the harder to the softer; as the scull is indented by the convolutions and vessels of the brain; and bone is absorbed before the pressure of an aneurismal tumor. It is therefore more probable, that the narrowness of the thoracic walls was the effect of the diminished bulk of the lungs, than that the contrary was the case.

Again: Are we to regard the smallness of the trachea as cause, or effect, of the diminished capacity of the lung? It must be confessed, that, anteriorly, we should be as much inclined to regard the size of the duct as dependent upon that of the gland, as that of the gland upon the calibre of the duct. But of this, direct proof is wanting; whereas it is ascertained—as in the case quoted by Dr. Stokes, from Reynaud—that obstruction to the air-passages causes atrophy of the lungs. We may therefore regard the narrowing of the trachea as a *vera causa*, and one capable of accounting for the phenomenon for which we are seeking a cause."

Now we are told in the dissection, that "the left auricle was considerably dilated and thickened: the mitral valve was occupied by a mass of ossified matter, partially denuded; and the curtains contracted towards each other, so as to diminish the auriculo-ventricular opening to a circular aperture of flexible but thickened membrane, which would not admit more than the end of the little finger." We may be in error, but we would certainly be inclined to attach much more consequence to this lesion than Dr. Barlow seems to do. Here is a positive obstruction—its effects (dilatation of the left auricle and right heart, and pulmonary apoplexy) palpable. Why should it be put in a parenthesis and more hypothetical and questionable alterations paraded in the foreground? We have seen the very same changes, the very same symptoms in adults of such conformation of thorax as to preclude the notion of defect in that quarter.

And, by the way, if, in the first case, the obstruction lay in the lungs, why should the *left* auricle have been dilated and hypertrophied. It *ought* to have been the contrary. It is only fair to hear Dr. Barlow on the other side.

"There are two other remarkable lesions to be noticed, which were observed in the second case, but not in the first; namely, the disease of the mitral valve, and the pulmonary apoplexies. Of these, the latter, which were recent, were, in all probability, the effect of the former, which was evidently of long standing. The manner in which these must have been brought about need hardly be pointed out: for the powerful right ventricle must, when the return of the blood from the lungs was opposed by the diseased condition of the auriculo-ventricular opening, have forcibly compressed the pulmonary tissue: and we cannot wonder that extravasation was the result. The disease of the mitral valve, however, deserves consideration upon another account; for it may be said, that it, and not the smallness of the trachea, was the cause of the non-expansion of the lung, by the impediment which it offered to the pulmonary circulation. To this there appears to me to be the objection, that in the first case, where the pulmonary obstruction existed in an equal degree, there was no disease of the left auriculo-ventricular opening. And secondly, that in those cases where there has existed engorgement of the right heart, either from disease in the left auriculo-ventricular opening, or from compression of the lungs by the narrowing of the thoracic walls, we do not have diminished calibre of the air-passages. Neither is the same effect produced on young persons, in whom the capacity for air in the lungs is diminished by the presence of tubercles in those viscera. Unless, then, we adopt the hypothesis of the narrowing of the trachea being the principal source of the morbid phenomena, in this, as well as in the first case, we are compelled to regard it as a mere accidental coincidence, without cause, and without effect."

We confess that we are not convinced, and that more evidence is required to

satisfy us of the operation of this cause. Dr. Barlow, however, reasons his case bravely, as the following ingenious passage will prove.

"This brings me to the left ventricle; which was hypertrophied, as well as dilated, in both cases. In the second, there was perhaps a twofold cause for this; namely, the venous congestion, and the disease in the coats of the aorta. In the first case, however, the aorta and its branches were healthy, and therefore the effect must be ascribed wholly to the venous obstruction. Of the action of this obstruction upon the left ventricle, I have before spoken, and shall have occasion to notice it more at length hereafter, and am only induced to recur to it now, as I believe that a different view is taken, by many, of the effect of pulmonary obstruction upon the left side of the heart. In the case of Mary K———, the diminution of the pulmonary artery, as well as the reduced (though otherwise healthy) left auriculo-ventricular opening, show that there must have been a diminution in the current which flows from the right to the left side of the heart. This diminution must have acted as a relief to the left ventricle; and so far would hove produced the opposite effect to dilatation and hypertrophy. On the other hand, the obstacle opposed to the passage onward of blood in the veins, and the ultimately indurated condition of several organs through which a circulation was to be maintained by the left ventricle, must have tended to embarrass that ventricle, and therefore to produce dilatation, or dilatation with hypertrophy: so that there were two opposite causes in operation; and, accordingly as the former or the latter might preponderate, we should have defect or excess in the force distending the left ventricle. Now, in the case before us, we should have expected, *à priori*, that the orifices leading to and from the ventricle would have adapted themselves to the quantity of blood which they had to transmit, and such would also have been the case with the arteries: and it is probable, that, at an early period, the whole systemic circulatory apparatus (the arteries as well as the ventricle) was small and unembarrassed. But when the increasing distention on the right side gave rise to regurgitation into the venous trunks, and ultimately to congestion in the smaller veins, and induration of the liver, and perhaps also of the cellular membrane of the extremities, there would be a fresh obstacle to the flow of blood in the arteries—that is, a fresh obstacle to be surmounted by the efforts of the left ventricle; which would, if the powers of the system were not materially impaired, lead to dilatation with hypertrophy. We should, then, upon this hypothesis, expect a large and strong left ventricle with small auriculo-ventricular opening, and small aorta; and such were actually found to exist. It is not necessary, then, that obstruction to the pulmonary circulation, especially in young persons, should give rise to atrophy of the left ventricle."

And now for the moral.

Dr. Barlow divides his therapeutic measures into the preventive, the remedial, and the palliative.

1. The *preventive* means, he thinks, will be most readily suggested by a review of the origin and progress of the disease. Thus a young person about eleven or twelve years old is observed to be short breathed, perhaps to be troubled with a cough, and to be rather bloated in the face, and is, perhaps, sent home from school on that account: measures, in themselves judicious, are very likely adopted; and considerable relief is obtained. The child, perhaps, returns to school; and the mother and governess, or tutor, and very likely the medical man too, comfort themselves in the belief, that, if a boy, he will "outgrow it;" and if a girl, that, when "a certain change" takes place, all will be right: but it somehow happens, especially if the patient be placed under unfavourable circumstances, or if the original disproportion be great, the boy, instead of "out-growing" his complaint, ceases to grow at all; or the expected "change" in the girl never takes place; and hypertrophy and dilatation of the right heart, with the train of symptoms detailed in the case of Mary K——, are the consequence: or perhaps the boy does in some measure out-grow his complaint, or for a time ap-

pear to have done so; and the girl attains to womanhood; but cough and dyspnœa, with perhaps asthmatic paroxysms, occur, at first, most probably after considerable intervals; but afterwards more frequently, and for a longer continuance; and ultimately become permanent, and carry off the patient at a premature age, or render his life a state of protracted helplessness and suffering.

The period for preventive measures is early youth. The most appropriate appear to be, to endeavour to develop the respiratory apparatus, to maintain a regular and moderate action of the other excretory organs; and to obviate, as much as possible, all venous congestion, by regulating the amount of the circulating fluid.

For fulfilling the first of these indications, a pure air is absolutely essential. An atmosphere loaded with carbonaceous vapours, or the exhalations from decomposing organic matter, not only, by its disagreeable qualities, tends to repress the healthy action of the lungs, but also acts, as has been already observed, as a direct stimulus to the liver; whereas a pure atmosphere, free from such noxious matters, and containing the due proportion of oxygen, is the natural stimulus of the respiratory organs, and must therefore tend to promote their healthy development.

Again: the regulated exercise of the system generally, as well as of the lungs in particular, must not be overlooked. The former not only, by exciting, gives tone and vigour to the vascular as well as the muscular system, but also, by increasing the rapidity of the venous current, calls the lungs into fuller action. It is almost needless to observe, that if such exercise be carried to excess, the effect will be one of the very evils which we are desirous of preventing; namely, the engorgement of the right heart; and therefore it is necessary, that where there exists any tendency to the affection of which we are treating, all such exercise as produces palpitation of the heart, or any tendency to lividity of the countenance, should be carefully restrained. The inclinations of the patient, unless he be stimulated by emulation to perform some feat of activity or muscular strength, will generally be a sufficient safeguard. The exercise here recommended should also be taken as much as possible in the open air.

The advantage of exercising the lungs themselves is not perhaps, in general, sufficiently considered: yet no one can contemplate a child shouting in the joyousness of his heart, without believing that he is obeying an instinct given by nature for some useful purpose. This instinct in children seldom, indeed, needs to be encouraged; though there is reason to apprehend that it is often mischievously and cruelly repressed. The advantage of moderate exercise of the vocal organs is equally great in early youth as in childhood; and perhaps the singing lessons are of some service in this respect, though they do not generally commence at the time when the expansion of the lungs is of the most importance. Reading aloud is another means of expanding the lungs and air-passages, which is most beneficial, unless carried to excess:—and thus the acquisition of the most useful and agreeable of accomplishments may be made subservient to health. Upon the importance of a careful attention to the state of the excretory organs in childhood and early youth, it is hardly necessary to insist: at the same time, it may be well to recommend caution in effecting our purpose; for it must be remembered, that over-stimulating leads often to disorganization. When the evacuations appear to be deficient in bile, or there is any reason to apprehend congestion in the portal system, a mercurial purgative will be most beneficial; but it should never be wantonly administered. A free and regular action of the kidneys should also be maintained: where they appear to act sufficiently, the use of diuretics should be avoided; but if, on the contrary, there appears to be any deficiency in the quantity of the secretion, the least stimulating means for the encouraging it should always be preferred. Dr. B. recommends "Imperial"—
›etate of potass—digitalis; warm clothing to regulate the functions of the skin;
›deration in the taking of fluids.

Dr. Barlow next speaks of the remedial means, those calculated to restrain the increase of the disproportion when it already exists; and thus to allow an opportunity for the healthy relation of the several organs to be restored, before the period when growth ordinarily ceases. Dr. B. admits the difficulty of diagnosis. He believes, however, that the first indication is to relieve the lungs by exciting to greater activity the liver, kidneys, and skin. The next object must be, to control the action of the heart, and to prevent its embarrassment, either from a too great quantity of blood in the system generally, or its accumulation in the venous trunks; and, lastly, to favour the development of the defective organs, by such measures as have been already suggested. The means of fulfilling these indications must, for the most part, be left to the discretion of the practioner. Dr. B. speaks highly of the combination of calomel, digitalis, camphor, and hyoscyamus. Moderate abstraction of blood will also be occasionally beneficial.

We must also bear in mind the liability of the patient to pulmonary apoplexy from any cause which may determine an increased quantity of blood to the right heart; and also to lesion of the tunics of the arteries, from any unusual excitement of the heart's action. The pernicious practice of compressing the lower parts of the lungs, by tight stays or other parts of dress, cannot be too strictly forbidden.

As for the palliative treatment, the cautious abstraction of blood will sometimes be found beneficial; and the careful use of digitalis will be found serviceable, in controlling the heart's action. The great object, also, of relieving the lungs by means of the auxiliary secretory organs should never be lost sight of: for this purpose, the bowels should by freely acted upon, and gentle diaphoresis maintained: and if free diuresis can be produced, we shall effect the purpose of carrying off redundant fluid, and thereby relieving the heart, whilst we are fulfilling the important indication just pointed out.

II. MEDICO-LEGAL REPORT OF THE EVIDENCE GIVEN ON A RECENT TRIAL FOR MURDER BY POISONING WITH ARSENIC. By ALFRED S. TAYLOR.

This is a *very* valuable report. But the case on which it is founded, as well as the Report itself, are too long and too minute for insertion in these pages. All that we can do, is to pick out some observations or some hints that may be useful.

1. *Inadequacy of common Reports.*—The slow progress of toxicology in England must be ascribed to the want of a sufficient number of accurate reports. A medical witness has generally gone into court, to give evidence in a case of poisoning, without any knowledge of the kind of information which has been required by counsel, from those who have acted as witnesses in former cases. The report of a trial, if published at all, has commonly appeared, either in an incorrect form in the public journals, or divested of all that is useful to the medical witness, in various works on criminal law.

2. *What a Witness may be asked.* Each trial affords a lesson: it at least teaches us what we are expected to know, and what we must be prepared to answer. At first, the view of the counsel for the defence seemed to be, that it was possible the diarrhœa, which the deceased was known to have had two days before his death, might have carried him off: but, independently of this not being a fatal disorder in an otherwise healthy man, the medical opinion was conclusive, that the deceased must have died from poison. Mr. Breach was then asked, whether arsenic might not have been accidentally mixed up in the

powders sent by him to the deceased, and whether he kept arsenic among his medicines. The answers were, That he prepared the powders himself—that he had prescribed similar powders on the same day for numerous other persons, without any ill effects resulting—and that the only arsenical preparation which he had in his possession was in a state of solution. He was required to describe the method of analysis adopted for the detection of the poison;—to account for the safe custody of the stomach and its contents, from the time of removing them from the body until the analysis was made, as also for the safe custody of the tubes and plates containing the arsenic reduced to the metallic state. The counsel then required him to describe the probable quantity of reduced metal obtained in each tube; and to say whether it would be possible to convert all the poison, diffused through the stomach and intestines, to the state of metal.

The questions, put to myself, in cross-examination, were chiefly—Whether ulceration of the mucous membrane of the stomach was a common effect of arsenical poisoning—What was the earliest period, after the poison had been taken, at which ulceration might take place—the earliest period for the occurrence of severe inflammation of the mucous membrane,—the quantity of arsenic required to kill an adult—how much was found in the deceased's stomach, and whether this was sufficient to destroy life. Again: How many tests were employed for the detection of the poison—which was the most satisfactory of these—and why, if the test of reduction was satisfactory, were others afterwards employed.

3. *Earliest Period for Ulceration of the Stomach from Arsenic.*—"The mucous membrane of the stomach presented patches of *ulceration*. The earliest period at which I have known this process to have been set up, in arsenical poisoning, is seventeen hours. Dr. Christison remarks, that it is hardly to be looked for, unless the patient has survived nearly two days. In the case before us, the deceased died within *ten* hours, and his stomach was found ulcerated. Both Mr. Breach and myself were closely cross-examined by prisoner's counsel on this point; the object being probably to show, that, according to all past experience, it was too early for the ulceration met with to have been the result of arsenic. But the appearance of the ulcers, with the fact of the poison being embedded in them, left no doubt of their origin on our minds, and so we did not hesitate to express ourselves. It was further explained, that as ulceration was a consequence of the actively inflamed state of the mucous membrane from the local irritation produced by arsenic, so it might happen that this appearance would be accelerated where the inflammation had been unusually acute."

4. *Is direct Evidence of Guilt necessary?*—The cases of poisoning in which direct evidence of administration can be procured, are, comparatively, very few in number. Poisoning is a crime almost always perpetrated in secresy: the murderer, in general, so lays his plans, that there may be no witness to the act of administration. These plans sometimes fail; but when they succeed, there are often circumstances which betray the nature of the crime, as well as the perpetrator. It is upon these circumstances, partly moral and partly medical, that courts of law commonly rely for proof of administration; and there can be no doubt, that if direct proof were always required for conviction, it would be tantamount to saying, that the greater number of cases of criminal poisoning are entirely beyond the reach of the law: and that the crime might be perpetrated with impunity, provided a few very simple cautions were observed by the perpetrator.

III. A REMARKABLE CASE OF ABDOMINAL EFFUSION, RESULTING FROM MESENTERIC TUMOR. By H. MARSHALL HUGHES, M.D. WITH OBSERVATIONS ON THE EFFUSED FLUID. By G. OWEN REES, M.D.

This case occurred in the person of a young man, a patient of Dr. Hughes, at the Surrey Dispensary. He had symptoms of dyspepsia, followed by effusion into the abdomen, which quickly increased with remarkably rapid emaciation In less than two months from his first application he died.

Dissection.—The peritoneal cavity contained from seven to eight quarts of rather thick and perfectly milky fluid, aptly compared, from its appearance, to almond emulsion. The peritoneum was not vascular, excepting over a depending portion of the ileum, but was universally sprinkled with minute white specks; by far the larger portion of which was easily removed by gentle friction, and consisted of delicate and almost capillary shreds, evidently deposited from the milky fluid; but some of which were as clearly firmly adherent to, if not produced by, the membrane itself. They were translucent, angular, and elongated, rather than rounded; and, in external appearance, bore a much more striking resemblance to the ova of *pediculi capitis* than to any form of tubercles. In the centre of the abdomen, resting on the spine, was a rounded nodulated tumor, as large as a twopenny loaf, which consisted of several agglomerated mesenteric glands: some of which were as large as a small orange, and, when divided, presented a soft, pinkish, pultaceous mass; from which, upon very slight pressure, exuded a white cream-like fluid, which appeared to constitute a portion of the deposit itself: others were of a dull white colour, drier and more granular; the whole exhibiting, both exteriorly and upon the exposed section, the general characters of cerebriform cancer. Other glands of the mesentery were more or less enlarged and opaque, some equalling the size of marbles and of pigeon's eggs. Some of the inguinal glands were also considerably enlarged, but contained no heterologue deposit. Several convolutions of the intestines, and the transverse arch of the colon, were adherent to the tumor. They all, however, appeared healthy, except the colon, which, in two places, was contracted and puckered around two white spots as large as a shilling, which were white, firm, and semi-cartilaginous in appearance. Opposite to these spots, the mucous membrane was entirely wanting; and their cut surface presented the same physical characters as the early stages of schirrous pylorus. One tubercular-looking body *only*, about the size of a pea, was discovered in the mesentery, close to a fold of the ileum. The liver, spleen, and kidneys were healthy. The pancreas was, unfortunately, not examined. Numerous lacteals—large tortuous, varicose, and distended, some with a milky, and others with a clear fluid—were observed in almost all parts of the mesentery: but in consequence of the sections already made, and of the examination occurring in a private house, no attempt at injection, for the purpose of discovering any lesion, could be made with any probable chance of success. Six ounces of the fluid were transmitted to Dr. Rees, for examination, who replied:

"I have examined the effused fluid, and find that it contains chyle in considerable quantity. Owing to the chemical character of serous effusions generally, it is quite impossible to determine what quantity of chyle is in admixture with the serum. Some idea, however, may be formed of its large proportion, when we recollect the peculiar milky appearance (so distinct from that of pus), which seems immediately to have attracted your attention. When this effusion was agitated with ether, it separated into three distinct parts; the upper being a solution of fatty matter in ether, the lower a clear serum, and the intermediate layer a floating mass of chylous matter.

This chylous matter, to which I have drawn attention in a late number of the Medical Gazette, is analogous to an animal principle existing in large proportion

in the saliva, and which seems to play some very important part in the process of nutrition. The characters of the fatty matter dissolved by ether, considered in connexion with the separation of the peculiar principle above alluded to, and the clearing of the serum consequent on the action of ether, rendered it pretty certain that the milkiness was owing to the presence of chyle. I certainly have never seen, and do not recollect ever to have heard, of an effusion presenting the chemical characters observed in this specimen."

The symptoms, in this case, depended, no doubt, on the pressure of the tumor. This was probably malignant. The tumor pressed on the branches contributing to the vena portæ and the thoracic duct; the passage of the chyle through some of the mesenteric glands was, in all probability, nearly, or perhaps entirely, prevented by the disease affecting their structure: hence arose, not only the serous effusion, and the repletion and tortuosity of, but exudation from, or actual rupture of, the chyliferous ducts: hence also, though the appetite was not very deficient, the wasting of the body was most extraordinary both in degree and celerity; and hence the existence of chyle in the fluid. Such is Dr. Hughes's rationale of the case.

IV. On Acute Aortitis: a Portion of an Essay read before the Physical Society of Guy's Hospital, January 13, 1838. By Norman Chevers, M.D.

Dr. Chevers observes that acute inflammation of the thoracic aorta appears to occur, in nearly all cases, either as a direct result, or as a complication of some other morbid process co-existing in the system. Thus, for example, it sometimes happens that acute inflammation, originating in the endocardium, extends onwards upon the membrane of the aorta. Again, in instances of pericarditis, the great artery has been known to participate in the disease: but this state has generally been noticed in conjunction with very extensive inflammation of the other thoracic serous membranes. In some extreme cases of pleurisy and pneumonia, occurring in persons of enfeebled and cachectic habits, not only have the whole of the structures in which the diseases originated been rapidly involved, but the heart and thoracic aorta have also become affected. Hodgson relates cases in which pulmonic inflammation was accompanied by aortitis of the most acute and fatal description: and the writings of Bertin and Bouillaud are replete with similar instances. The aorta appears, also, to have the same tendency to participate in acute disease in some of those cases of phthisis which are so strongly marked, at once, by entire prostration of all healthy reparative power, and by extreme liability in the system to take on inflammation of an asthenic kind.

In the early stages of aortitis, few of the structures implicated become the seat of inflammatory deposit. When diseased action has existed longer, the cellular tunic may become œdematous. The middle tunic is liable to softening, which diminishes its tone and exposes it to rupture. But the membrane lining the aorta, and the structures immediately subsidiary to it, are liable, when acutely inflamed, to present one of two alterations; each forming a disease strongly characteristic of the constitutional state which engenders it.

First Type.—This appears to result from the accession of a very active form of adhesive inflammation: in which a great tendency to the deposition of plastic matter is shown, by the presence of a single layer of coagulated lymph, of variable thickness, remaining attached over a greater or less surface of the serous membrane. We are, however, but rarely able to discover this kind of effusion in its original form of a single fibrinous layer, (excepting when the disease proves very rapidly fatal, the patient expires suddenly from other causes,) on account of the great ten-

dency which the blood has to deposit masses of coagulum upon any inflamed surface with which it comes in contact. A condition closely similar to this, in the smaller vessels, appears to give rise to most of the cases of dry gangrene, as it affects the extremities of aged persons. We have sufficient evidence for stating, that in this disease, before the arteries of the affected limb become plugged with coagula, their linings, already rendered scabrous by old disease, become clothed with a plastic effusion, the product of acute inflammation: this deposit forms a medium by which the organizable portion of the clots is retained in the tubes until the separation of the sphacelated part is effected. The manner, however, in which the product of inflammation is disposed upon the diseased membrane appears not to be precisely the same in the smaller branches as in the primary arterial trunk; for while one side only of the calibre of the aorta usually presents a coating of lymph, in the less tubes, the adhesive matter is poured out more equally over the whole interior of their canals. We occasionally observe large masses of pale fibrinous matter very closely adherent to some portion of the aortic walls; especially, either about the sygmoid valves, or in the abdominal portion of the artery, an inch or two above its furcation, partially obstructing the canal, and sometimes (when in the latter position) entirely closing it. From the marked traces of inflammatory change in other parts of the vessel, which usually accompany this lesion, some authorities surmise that these masses are entirely produced by the diseased internal membrane: but it must be submitted, that although their bases or nuclei may have had an inflammatory origin, their larger portion is probably composed either of pale fibrin, similar to that found after death in the cavities of the heart, or of mere coagula of blood, which, having slowly collected over a surface rendered irregular by the presence of a thin false membrane, or by a villous state of the lining itself, have gradually proceeded to assume a large size, and often a semi-organized appearance. Although these productions must necessarily tend to impede the flow of blood through the vessel, and do, in fact, usually produce a tendency to gangrene of the lower extremities, it is very remarkable for how long a time vessels thus obstructed will sometimes continue to take part in the circulation. It occasionally appears, that the inflammation which precedes the formation of these plugs ceases spontaneously; and the masses become permanent, contract, and receive earthy or other deposits.

After noticing some specimens, Dr. Chevers continues,—That form of aortitis, in which layers of coagulable lymph are deposited upon portions of the internal membrane of the vessel, appears to occur under one of two states of the circulation; or it may result from their combination. It may arise, in the first place, while the flow of blood through the vessel is feeble, or unnaturally tardy, from diminution of the heart's impelling power. Thus it is observable, that in some cases of exhaustion during the latter stages of adynamic disease, inflammation of a low type is set up in the aorta; and lymph becoming effused from portions of its lining, the current of blood is not sufficiently strong, either to prevent the formation of a false membrane, or to wash it from its attachment when produced; and, secondly, it may occur where, from some actual impediment to the complete emptying of the vessel, a degree of stasis of the current takes place in the aorta; and the products of any inflammation, then induced, are allowed to collect upon its membrane at any diseased point above the obstacle. During certain stages of Bright's Disease, the lining of the aorta appears to have a great tendency, in common with all the serous membranes, to suffer from inflammatory effusion; and is then liable to receive deposits of coagulated blood, or of adhesive matter upon its surface. The formation of these is probably due to the impediments which the blood receives in the aorta; from the obstructed condition, almost invariably existing in these cases, of the branches terminating the renal, splenic, and hepatic arteries; together with the languor of the heart's action produced by the œdematous

state of the lungs, and the tendency to coma so frequently present during the latter hours of patients sinking under this disease.

Second type.—The second class of inflammatory changes met with in acute aortic disease bears a close resemblance to the worst form of erysipelatous action; not only in the rapidity of its progress and the character of its products, but also in its selection of the most debilitated and cachectic individuals, as the subjects of its ravages. It occurs only in persons of the most debilitated constitutions, or in those worn out by the pressure of long-continued disease. It appears either during the latter stages of ataxic fevers; or in the subjects of chronic visceral disease, suffering under the effects of severe operations, profuse hæmorrhage, phlebitis, or arteritis. As the matter effused from the affected surfaces is not sufficiently plastic to resist the current of blood, neither lymph nor coagula form upon the interior of the vessel; and thus the morbid action continues to spread onward, until nearly the whole of the great arteries are involved in the fatal mischief. This state appears to be identical with a somewhat rare form of disease in the smaller arteries—the erysipelatous arteritis; which Cline and Abernethy saw induced by the mere application of ligatures, in the operation for aneurism; and which also occasionally results, either from very slight injuries to the extremities, or, idiopathically, from causes purely constitutional. Here the truly reparative process, by which lymph is effused upon the walls of an inflamed vessel, giving rise to the coagulation of blood within it, is not effected; no bar is formed to the progress of the disease; gangrene of the limb does not occur; but the inflammation ceases not to advance, until it has reached the aorta and the heart.

Dr. Chevers takes up the question, how far discolouration of the arterial linings is occasioned by imbibition. To determine this he has made several experiments. From them he infers:—

That, during cold and temperate weather, stains from imbibition will not be produced in tolerably healthy arteries until after the usual time at which post-mortem examinations are made.

That stains, very different from those produced during life, result from the imbibition of blood similar to that usually found in the aorta.

Again: That a colour produced by inflammatory action becomes somewhat changed after death, by the long application of fluid blood.

Dr. Chevers goes on to observe that, the most common appearances of reddening in the internal membrane of the aorta, which (where the patients have also suffered from other acute, local, or constitutional disease) are assignable to inflammatory action, appear, in their incipient form, as blushes of a bright pink colour, diffused over parts of the internal membrane, without any evident alteration in its texture. At a more advanced stage of the disease, we observe the lining membrane assuming throughout a deep crimson hue; which is, in some parts, rendered purple, from the addition of a darker stain after death; it may also be thickened, and have a dull or almost villous appearance: but this is unfrequent. Its tenacity is often diminished, the slightest pressure sufficing to strip it from the vessel; and it is usually raised, in many spots, by solid masses of lymph deposited in the laminated sub-serous tissue; these generally peel off with the internal membrane, and appear, until cut into, like red vesicles rising behind it. I think, that so long as these masses retain their transparency and florid tinge, we may justly infer that acute aortitis has been lately present: for, shortly after their deposition, a slight cloud of white opacity begins to appear in the centre of each, gradually becoming deeper, and extending to the edges: they then acquire an almost cartilaginous toughness, and proceed slowly to undergo the atheromatous or ossific change. Patches of lymph, differing from these only in colour, are not unfrequently found, unattended by any reddening of the internal membranes, in aortæ which have long been subjected to irregular distention, and to

its almost necessary result—subacute inflammation. They are occasionally of rather large size, often projecting considerably into the calibre of the tube, and may, at times be noticed undergoing various stages of change in different parts of the same vessel; those most recently deposited, appearing almost transparent, and of a very light straw or amber colour; while those of older date, either have opacities in their centres, or have assumed, throughout, a dead-white colour, and a nearly cartilaginous density.

Dr. Chevers, in opposition to M. Bizot, believes that these deposits take place into the sub-serous fibrous tissue—and that the cartilaginous patches become osseous.

Passing over some hypothetical suggestions, we arrive at Dr. Chevers's account of the—

Causes of Aortitis.—Dr. Chevers thinks, "it may be offered as a broad principle, admitting but few exceptions, that inflammation of the large arteries, and, I may add, of the endocardia, arises either in conjunction with similar states in other membranes of analogous function, or under a condition of the system in which the whole of the serous cavities are rendered peculiarly liable to the aggression of inflammatory disease of the most rapidly spreading kind and the lowest type."

Not unfrequently inflammatory action is propagated from the lining membrane of the heart to the aorta. And it is not uncommon to notice extreme dilatation of the left ventricle, from chronic disease of the sigmoid valves, as well as concentric hypertrophy of the same cavity, attended by inflammatory reddening in portions of the aorta, and by the effusion of recent lymph, in reddish or straw-coloured patches, behind its lining.

Aortitis appears to be a by no means unfrequent sequence of phlebitis. In cases of cachectic patients, where the large veins of the extremities have become suddenly inflamed—either spontaneously or after injury, or from rheumatism, and, far more frequently, when the uterine sinuses have suffered inflammation, shortly after parturition, in females of feeble and irritable diatheses—all the large communicating venous tubes, and the cava itself, have participated in the mischief, conveying it rapidly to the heart: and here not only have the right cavities of the organ presented the worst forms of inflammatory change, but the pulmonary artery and veins have suffered to a similar degree: and Bouillaud relates a singular case, in which phlebitis extending to the right side of the heart and pulmonary artery, the aorta presented traces of recent inflammation, while the lining of the left cavities was pale, and offered no evidence of disease.

Acute rheumatism has not been known to give rise to fatal aortitis, but a dangerous form occasionally ensues where a transient attack of acute rheumatism has given rise to that intense form of synovitis which has been termed "purulent-arthritis" by Dr. Stokes—a disease marked by effusion of pus into one, or perhaps several, of the large joints, together with the removal, by ulceration, of the synovial membrane, and, occasionally, with the rapid destruction of the articular cartilages: the arterial systems of patients so affected, have been found implicated in the worst degree. Severe aortitis, too, not unfrequently co-exists with secondary inflammation of the serous membranes.

Symptoms of Aortitis.—Dr. Chevers' symptomatology is not very satisfactory. He says:—

"The general train of symptoms which mark aortitis (as derived from many cases I have collected, together with several I have myself seen) appears to be this:—A patient of cachectic habit, and perhaps subject to some form of passive hæmorrhage, becomes suddenly affected with acute thoracic inflammation, attended by more or less prostration of the system, with a scarcely-accelerated but sharp and small pulse, and somewhat hurried and difficult respiration. These symptoms, having been preceded by rigors, usher in an attack of acute inflam-

matory fever, with general uneasiness, presently amounting to a state of extreme irritability: pain, occasionally of great severity and tearing character, in the precordial and abdominal regions, along the course of the spine (a sign of importance, inasmuch as those forms of pleurisy and pericarditis which usually complicate aortitis are rarely indicated by continual pain): there is now a tendency to syncope, alternating with restlessness, great heat of skin, a furred and vividly red condition of the lips and edges of the tongue, unquenchable thirst, and a rather full and rapid pulse, with tumultuous action of the heart, imparting a sensation of *fremissement* to the hand applied over the præcordia. After a time, these symptoms are succeeded by the signs of collapse: there is now extreme prostration; the features either shrink and become sharpened, or are bloated and livid; the surface is cold and discoloured; the pulse rapid and indistinct; the breathing difficult, to orthopnœa, or it may become stertorous; the patient falling into a state of coma, from the occurrence of effusion into the base and cavities of the brain: the extremities swell, their superficial veins shewing, through the skin, in dusky lines of ecchymosed appearance; the respiration is at length performed only by sudden gasps at long intervals; and the patient dies with the general aspect of a person suffering from the absorption of an animal poison.

Such are the symptoms which mark the typical form of the disease; but, in the majority of cases, very few of them are present. Thus, a patient sinking from the effects of erysipelas, of extensive suppuration, of phthisis, or, again, from the irritation induced by a surgical operation, may be the subject of extensive aortic inflammation, and still have few symptoms superadded to his condition of prostration and general constitutional disturbance beyond some dyspnœa, together with an increased degree of irritability and distress: so entirely ataxic are some of the forms of acute disease, to which the aorta is liable. Dr. Bright, however, mentions an important sign, which he noticed in three cases of aortitis; namely, the existence of a state of morbid sensibility so intense over all parts of the body, that merely pressing the wrist of one of the patients caused him to cry out with pain."

But the disease may escape observation in the last stages of a typhoid fever, or in common with mere thoracic inflammation, or in those who have sunk under low forms of the exanthemata. So that our readers may well suppose that aortitis is more often recognized on the dead than on the living body.

Treatment.—The admission, on the part of Dr. Chevers, that the disease is a desperate one, is also an admission of the usual futility of treatment. Indeed we may safely venture to say that the disease is as difficult of treatment as of diagnosis. Dr. C. thinks that the occurrence of aortitis, and its concomitant inflammations, might frequently be obviated, by constant attention to the state of the secretions of those who appear to be liable to these attacks, at the same time allowing a proper and nourishing diet, with the temperate use of stimulants where they have long been taken habitually. And it is probable, that surgical patients, in great metropolitan hospitals, would generally escape these attacks, if, before being submitted to operations for the removal of chronic local disease, they were kept for a few weeks upon a moderately-strengthening diet; and were it to become an established rule with surgeons, to defer, if possible, the performance of any operation upon individuals, suffering either from hepatic disorder, or from those states of renal disease which are indicated by albuminous urine, until these conditions were removed, or mitigated, by the usual medical treatment. Dr. C. conceives that, in the commencement of aortitis, the milder preparations of mercury may be given in *small* proportions, combined with large doses of opium or hyoscyamus, providing the patient remains perfectly free from symptoms of cerebral mischief. Again: Where there is evidence of great excitement of the circulation, remedies tending more immediately to tranquillize the heart's action, as digitalis or the acetate of lead, may be employed in combination with opiates.

These means will be aided by the application of counter-irritation to the chest and back; but not to a degree sufficient, either to produce severe lesion of the integuments, or to add to the general irritation in the system. The infriction of tartarised antimonial ointments, as recommended by Dr. Copland, together with dry-cupping, are not contra-indicated; whereas the use of blisters, issues, and setons, is highly objectionable, on account of the feeble power which the constitution possesses, during the continuance of the disease, to repair structural lesions, even of the slightest kind.

In the latter stages of aortitis, the frequent administration of small quantities of the stimulants to which the patient has formerly been habituated, or of ammonia and other agents calculated to fulfil the same intention, with the application of warm and stimulating liniments to the chest, will nearly comprise the therapeutics of this disease.

Such are the views of Dr. Chevers. With the utmost deference to observation so careful, and precision so great, we still feel incredulous of the amount of aortitis reputed to exist by Dr Chevers, and not quite satisfied with the nature or amount of the evidence adduced. Probably we are wrong, but we cannot help suspecting that much of what goes for aortitis is the consequence of imbibition in the later hours of life, or after death.

V. CASES OF MALIGNANT DISEASE OF THE LUNG. By H. MARSHALL HUGHES, M.D.

Dr. Hughes remarks that, notwithstanding the greatly increased attention which has been latterly paid to the investigation of thoracic complaints, and the exactness with which, by the aid of percussion and auscultation, the existence of many affections may be predicted, the diagnosis of malignant disease of the lung remains in a great measure uncertain. The absence of any definite symptoms, and the indeterminate character of the physical signs—or the limited opportunities of ascertaining them, in consequence of the comparative rarity of the complaint, have hitherto rendered its detection a matter of difficulty and of doubt. It may indeed still be said, in the words of a recent writer, "As yet, almost nothing has been done, in establishing the diagnosis of this disease."

Dr. Stokes has mentioned two forms of the complaint. In one, "degeneration of the lung occurs, and the organ is transformed into a cancerous mass. In the other, a tumor is formed external to the lung which it ultimately displaces as it progressively increases in size. He has not noticed, or only slightly alluded to, a third, and, according to my own observation, a very much more common form than either of those to which he has referred. In these cases, rounded masses, varying in size from small marbles to small oranges, white, pink, or purplish, in colour—and solid and semitransparent, or friable and opaque, according to the age or character of the affection—are found distributed throughout the greater part of one, or, more commonly, of both lungs; while disease of a similar kind, but in a more advanced stage, exists in some other organ or organs of the body, as the mamma, uterus, testicle, kidney, or liver, or in the bones and soft parts of the extremities. When, indeed, fungoid disease has long existed in any part, and at the period of the patient's death has already made considerable progress, it is far from uncommon to find, on dissection, masses of the character alluded to in the lungs, as well as in other internal organs.

Dr. Hughes introduces four cases. The first of these is a—

Case of Fungoid Disease of the upper part of the Lung.—Mary Benbow, aged 50, a washerwoman, admitted August 19, 1841.

Two years ago, she caught cold, and was confined to her bed for two months; ever since which she had been subject to occasional attacks of hæmoptysis. She

had been under Mr. Kingsford's care for nine months; and during that time had been several times attacked with spitting of blood, for which, on two occasions, she was bled; but was generally treated by the administration of acids, acetate of lead, digitalis, and saline purgatives. When admitted into the hospital, the countenance was rather pale and sallow, with a few enlarged cuticular veins in the cheeks; her legs were swollen; she had no pain, nor was she particularly emaciated; she lay upon her back, with the shoulders rather raised, and somewhat inclined to the right, but could turn to either side, or get up without much inconvenience; she complained of cough, accompanied with shortness of breath and sanguineous expectoration; her tongue was slightly coated, and moist; her skin soft and unctuous; her pulse frequent and feeble; her bowels regular. The sputa, on examination were found to consist of white frothy mucus, with some portions of a light crimson colour from their perfect admixture with bright-red blood. She had one absorbent gland, nearly as large as a pigeon's egg, in the right axilla, and a smaller one under the right clavicle; but had not been aware of their existence till they were pointed out to her. The superficial cutaneous pain of the right side of the abdomen, and the lower part of the chest, were considerably increased in size, and rather tortuous.

Physical Signs.—On inspection of the chest, it was at once evident that there existed a very decided sinking and flattening below the right clavicle, extending nearly to the mamma; that the ribs of the part were very little moved in respiration, and that when elevated however slightly, they were raised *en masse* as a solid unyielding case. Over this portion of the chest, at the upper part of the right axillary region and over the right scapula, there existed a perfect deadness of sound on percussion; complete loss of the respiratory murmur; very marked tubular or tracheal respiration, only rarely accompanied by a little coarse mucous rattle great shrillness and loudness of the voice, approaching to imperfect pectoriloquism: and obviously increased tactile vibration. The morbid phenomena appeared to terminate at a defined line just above the mamma, and to pass round the whole of the right side of the chest. The lower portion of the right and the entire left lung appeared healthy.

It is unnecessary to enter any notice of the treatment adopted, as only palliatives were employed. Her symptoms varied but little: she had occasionally severe pains of the left side, which were relieved by sinapisms; her dyspnœa became gradually worse, and soon amounted to orthopnœa; the œdema of the legs increased. She had no ascites, and, while in the hospital, had no hæmoptysis of any severity. The physical signs remained of the same character, but extended downwards with considerable rapidity. Without any particular suffering, or very great emaciation, she died exhausted, Oct. 17th.

Dissection.—The left pleura was slightly adherent, from old standing disease. The left lung was crepitant throughout, and partially emphysematous. The right pleura was universally firmly adherent, and superiorly altered in texture by a white flaky malignant deposit. The entire upper part of the right lung was converted into a mass of medullary fungus, the cut surface of which exhibited a dead-white cheesy substance, intersected with bands of cellular tissue. By slight pressure, a creamy fluid exuded, together with portions of soft brainlike matter, from cells varying in size from a pin's head to a marble. The middle lobe contained some portions of the malignant growth, appearing like elongations or processes of the diseased mass above them, from being clearly connected with and traceable into it and separated from each other by the intervention of healthy or simply compressed lung. The interior lobe contained a few small detached masses of fungoid matter, and was, posteriorly, firm, dark-coloured, and lacerable, probably from gravitation. In the branch of the right pulmonary ...rv, going to the upper lobe, there was a small pedunculated medullary ...le, and another on its external surface. The heart and pericardium were ...l.

We pass over the *second case*, although not uninstructive, but pause at the third.

Case of Fungoid Disease of the Thigh and Lungs.—Sarah Swaisland, aged 14, admitted into Guy's Hospital, under the care of Mr. Callaway, Jan. 6th, 1841.

About a year ago, she received a kick from a boy upon the knee; and a short time before admission, the joint became swollen and painful. When she entered the hospital, it was inflamed and tender, but not much enlarged. It increased, however, very rapidly in size, and amputation was proposed; but not assented to, till it was impracticable. Her pain was relieved by morphia: but neither topical applications nor internal medicines had any effect in retarding the growth of the tumor. She died June 1st, 1841. Her chest was not examined during life, as she had no constitutional irritation, no cough, difficulty of breathing, or hæmoptysis, to induce her attendants to suppose that she had any disease of the lungs.

Dissection.—The body was emaciated, and the mammæ but little developed. The great tumor consisted of radiated, long, and fungoid tissue, very, but variously, fleshy and vascular; soft, and but little or nowhere cerebriform; and in little parts, escaped from within the periosteum. The joint was but little inflamed. There was suppuration about the groin; both legs were more or less œdematous: a turbid effusion in the periosteum. The liver was large, coarse, and soft; or so flabby as to give the idea of a sac of fluid. It was not very lacerable, but darkish. The lungs contained numerous tubercles, about the size of peas and chesnuts, firm, roundish, nodular, semicartilaginous, somewhat translucent; and some were very earthy. The heart was small.

A case like this, shows, as Dr. Hughes observes, that numerous masses of fungoid or schirrhous matter may be deposited in the lungs, while a similar disease is advancing with greater rapidity in some other part or parts of the body, without causing any symptoms of pulmonary irritation. The attention of the observer is, consequently, not particularly directed to the state of the chest; it is not at all, or only very superficially, examined; and the disease of the lung is often not even suspected, till displayed upon the inspection-table.

All who have seen much of cadaveric examinations have seen instances of this sort. We frequently hear of patients dying *consumptive* who have been operated on for cancer. No doubt, malignant disease of the lung is mistaken frequently for phthisis, and practitioners would do well to peruse these cases and prepare themselves for similar occurrences.

After relating another case of dubious character, Dr. Hughes sums up:—

"I presume the two first cases herein related are genuine and characteristic specimens of what Dr. Stokes calls 'cancerous degeneration' of the lung. If, then, the two last cases are excluded from consideration, and a review taken of the two first in connexion with the two of a similar form of the disease recorded by that experienced physician, it will be found, that, in all four, the disease existed on the right side—that all were more or less troubled with hæmoptysis—that, in three out of the four cases, the sputa, which in the fourth are merely stated to have been tinged with blood, presented a very peculiar appearance, Dr. Stokes having compared them very curiously to 'black-currant jelly,' while I have frequently publicly noticed their resemblance to 'red-currant jelly mixed with water'—that in all there existed evidence of obstruction in the superficial veins of the affected side, evinced either by the enlargement of the vessels themselves, as in three, or by œdema of the parts situated, in reference to the progress of the venous current, just below the diseased organ, as in the fourth—and that, in two, tumors were discovered in other parts of the body. It will also be found, in reference to the physical signs, that there was, in all, perfect dulness on percussion; absence of the natural vesicular murmur; and tubercular or tracheal respiration, without any rattles, or with only a little, of a simply bronchial character. We may, perhaps, therefore conclude, though there are no physical

signs at present known which are peculiar to or are pathognomonic of this complaint, that when there exist signs of extensive solidification of the lung, without either the previous history of pneumonia, or any evidence of softening of the morbid product—when the patient has been troubled with hæmoptysis, and the general symptoms and progress of his affection are inconsistent with the presence of tubercles—when the sputa occasionally consist of blood, so thoroughly incorporated with serous fluid as to resemble currant-jelly—and when the veins of the neck, arm, chest, or abdomen, on the affected side, are enlarged, or there is local œdema proving obstruction to the flow of blood within them—a suspicion may be entertained of the existence of malignant disease of the lung; and that this suspicion will be strengthened by the complaint being situated on the right side, and especially by the appearance of tumors in other parts of the body.

It must however be added, that the disease sometimes, as in the second case herein related, very accurately resembles empyema—that the history of the case, and the physical signs, are on such occasions insufficient for the purpose of distinguishing the two complaints—and that the diagnosis, if at all practicable, must then be deduced from the general symptoms, the peculiar character of the expectoration, the obstruction to the flow of blood through the superficial veins of the affected side, and the appearance of malignant tumors in other parts."

It is our impression, although we should be sorry to speak very positively to the point, that we have seen at least one instance of medullary tubercles in the lungs unattended with the expectoration described by Dr. Hughes. Unfortunately, we have lost our notes of the cases, and can only speak thus loosely from memory. The subject merits close observation. It is pretty clear that when a patient, who has suffered from malignant disease in any organ, complains of thoracic symptoms, suspicion should be pointed to the probable occurrence of malignant affection of the lungs. Dr. Hughes has done well to draw more general attention to the subject.

VI. REPORTS OF CASES REQUIRING CAPITAL OPERATIONS WHICH HAVE BEEN PERFORMED SINCE OCTOBER 1, 1840. By BRANSBY B. COOPER, Esq., F.R.S.

The following list is subjoined.

OPERATIONS IN CASES OF IMPORTANCE, PERFORMED IN GUY'S HOSPITAL, BY MR. B. B. COOPER, FROM OCT. 1840 TO JULY 1841.

For *Aneurisms* 4 in Guy's Hospital: 1 in private practice:
- Of the Subclavian . . . 1, unsuccessful.
- Popliteal . . . . 3, all successful.
- Common Carotid . 1, successful, (in private practice.)

Lithotomy—5; viz.
- In Children . : . . . 3, all successful.
- In Adults . . . . . 2; one successful; one unsuccessful.

Excision of Elbow-Joints—2, both successful.

Excision of Cartilage from Knee-Joint—1 still doubtful.

Amputations—8; viz.

Of Upper Extremities . . 5 { for disease, 2, { successful, 1. unsuccessful, 1. ; for accident, 3, all successful.

Of Lower Extremities . . 3 { for disease, 1, successful. / for accident, 2, both successful.

Removal of Diseased Breasts—3, all successful.

Trephining for Injury—1, unsuccessful.

Removal of Tumors—4; viz.

Steatoma from over Scapula	successful.
- - - - - - - Deltoid	ditto.
Suspicious tumor from Elbow . . .	ditto.
Steatoma from the Gluteal Region . .	ditto.

Fungoid Testicle, removal of—1, successful.

The cases are reported at length, perhaps a little too much so, and we must refer our readers to the originals. We shall content ourselves with noticing a point or two.

Mode of passing the Ligature for Popliteal Aneurism.

In a case in which Mr. Cooper tied the femoral artery, instead of the usual mode, when the artery is exposed, of drawing the saphenous nerve outwards, and then passing the aneurismal needle, armed with the ligature, between the artery and vein, Mr. Cooper adopted the following plan:—immediately on opening the sheath, he passed an aneurismal needle, unarmed, below the whole of its contents, from without to within, and to such a distance, that its curved extremity appeared close to, and on a level with, the upper and inner edge of the artery. There were two branches of nerves in this case, running along the upper surface of the artery: having gently detached these, by means of the blunt edge of a small probe, Mr. Cooper "tilted" them over the exposed end of the aneurismal needle; on which, therefore, remained lying only the artery and vein. Between these, Mr. Cooper now insinuated the end of the probe; and through the space thus made, passed the needle, having removed it cautiously from its former situation. In this situation, the needle was armed by an assistant, and the ligature then secured in the usual way. This method appeared to place the separation of the artery from the nerves and the vein more under the command of the operator, while it caused the least possible disturbance to its cellular attachments.

"I may remark," says Mr. Cooper, "that the position in which the thigh is placed before the operation, is of great importance, in reference to the subsequent passage of the ligature. By the full rotation of the thigh outwards, and by the bending of the leg, all the muscles are relaxed; and by a pillow being placed under the leg, the patient is freed from the apprehension of moving the limb, and thus interfering with the operation. In regard to the direction of the incision necessary to expose the artery, there is no doubt that, as a general rule, the inner edge of the sartorious muscle is the best guide; but frequently in cases, where, from œdema extending over the thigh, this edge cannot be distinguished, a line may be taken from the centre of Poupart's ligament to the inner side of the patella, and the point at which it is intersected by another line, taken from the anterior superior spinous process of the ilium to the tubercle of the inner condyle of the femur, marks the spot at which the ligature should be applied. The artery, in the case in question, was, as before narrated, seen pulsating on its exposure; but I may state—though to many the remark will be superfluous—that this is far from being uniformly the case. I have seen even the carotid lie so perfectly quiescent after exposure, that a surgeon has thought, from the total absence of pulsation, that it could not be an artery. The whitish-coloured vessel which is exposed in these operations is only discovered to pulsate by being pressed between the finger and thumb. From the details in Case No. 2, I think that the advantage of passing the needle before it is armed with the ligature, is sufficiently shown. It is necessary to take great care that the point of the needle

be not too sharp; or there will be considerable danger of wounding the vein, whilst the needle is being passed between it and the artery. As to the tightness with which the ligature should be drawn, the surgeon should exercise his discretion, and is best taught by experience. It is frequently stated, that the inner and middle coats of the artery should be felt by the operator to give way under the ligature; but, in a very great majority of cases, I have not been able to detect any thing of the sort. In old persons, where the coats are more likely to be indurated or ossified, a less degree of force will of course be proper. In Cases Nos. 2 and 3, the patients were sensible of an injury at the moment at which the aneurism may be supposed to have originated; and the same remark applies to the following case, No. 4. This is an unusual circumstance"

CASE OF LIGATURE OF THE COMMON CAROTID ARTERY.

The Rev. Mr. ———, aged 34, a native of Barbadoes, having lately arrived from that island, made application to Mr. Cooper, on June 30th, for the cure of an aneurismal tumor on the right side of his face.

The tumor was about the size of a small walnut, deeply imbedded within the substance of the parotid gland, and placed close to the neck of the lower jaw, apparently in the exact situation of the division of the external carotid into the temporal and internal maxillary arteries. Its pulsation was very perceptible to the finger; but not so readily to the sight, from its being covered by the parotid gland. On applying the ear, the peculiar whiz characteristic of aneurism was distinctly perceptible. By pressure on the common carotid artery, not only this, as well as the pulsation, ceased, but the tumor itself entirely disappeared: the pressure being removed, it most rapidly resumed its former position and appearance. On depression of the lower jaw, the prominence of the tumor was no longer discernible. This state of things had led to no inconvenience whatever to the patient; for he apparently performed every function as naturally as if entirely free from disease.

The tumor had first been noticed accidentally about a twelvemonth previously. Mr. Cooper, as well as Sir B. Brodie and Mr. Liston, recommended an immediate operation. It was performed at half-past two, P.M, on the 7th of July.

An incision, about two inches in length, was made, commencing on a level with the middle of the thyroid cartilage, along the inner side of the sterno-cleido-mastoideus muscle, but nearer to the median line than usual. A small superficial artery was divided and secured: there was not much venous hæmorrhage. A quantity of cellular tissue being divided, the omo-hyoideus and sterno-hyoideus muscles were exposed; and the artery was felt pulsating at the bottom of the wound, which appeared very deep. The omo-hyoideus being then drawn downwards and inwards by means of an aneurism-needle, and the neck a little relaxed so as to bring the parts better into view, the sheath was cautiously opened, as much to the inner side as possible. The artery was thus exposed. There was no obstruction from any swelling up, or over-lapping of the jugular vein: which did not, in fact, present itself to view. An aneurism-needle, unarmed, was then passed beneath the artery; upon which, at the time, a small nerve was lying: and when this had been carefully detached, for a small distance, by means of a blunt silver probe, the needle was armed with the ligature. One end of this was now passed between the upper surface of the artery and the small nerve already spoken of; and this being held securely, the other end was drawn out, together with the aneurism-needle, from beneath the under surface of the vessel. The effect produced on the tumor by pressure on the artery was observed; and being found to be satisfactory, the knot was made. The aneurismal sac immediately became flaccid, and yielded entirely to pressure. The wound was closed by two ligatures and adhesive plaster, and the patient placed in bed, with his head raised
[illegible]k relaxed.

During the operation, he displayed unusual fortitude and submission; neither disturbing the parts about the throat by uttering exclamations, nor offering resistance by struggling. Towards the latter part of the operation, prior to the ligature being put round the artery, he once or twice coughed, with a peculiar barking sound; but this was evidently involuntary.

The right side of the face was cold for that day. Every thing went on well. The ligature did not separate until the 10th of August, when the report goes, that the facial and temporal arteries on the right side of the face appear to be obliterated. There is no perceptible difference in the vessels on the opposite side.

The patient mentioned a curious circumstance. He asked if he had been observed to make during the operation, a curious noise, like the bleating of a goat; and said, that it was quite involuntary, and was attended with a curious sensation, as of some one squeezing the lower part of his throat, and also a sudden sense of weight at the stomach and a disturbance in the bowels; so that he was, for a minute or two, afraid he should not be able to retain his fæces. These sensations, together with a general sense of faintness, occurred at the same instant; and, he said, seemed to depend on Mr. Cooper's pushing aside something with his finger in the wound. No doubt this was the nervus vagus. Mr. Cooper makes a remark on the method of operating, which we think is of importance.

"The patient being placed in the recumbent position, I commenced my incision more to the inner side, or towards the sterno-thyroid muscle, than is usually recommended; with a view, upon opening the sheath, of more immediately exposing the carotid artery; being convinced, from examination, that the usual direction given to cut down along the edge of the sterno-cleido-mastoideus muscle leads rather to the jugular vein than to the common carotid artery. This conviction seems verified by the fact, that most authors, in their description of this operation, speak of its difficulties principally arising from the distention and rising of the jugular vein, a circumstance which not only did not occur in this instance, but the jugular vein was not even brought into view, nor did it in any way interfere with the application of the ligature. The only difficulty I met with, was from the depth at which the vessel was placed from the surface, and of which the appearance on the dead subject offers no criterion. Having made the opening into the sac so much on the inner side for reasons already given, this depth of the vessel offered impediment to the ligature being passed, as usual, from without inwards, but readily permitted its passage from within outwards; a mode which is equally safe, if the forefinger of the operator is placed so as to protect the vein from any injury from the point of the needle. I armed the aneurismal-needle, as I always am in the habit of doing; as the needle passes so much more freely without than with the ligature. The patient seemed not to express pain from the tightening of the ligature at the moment; nor did he afterwards exhibit any indications of suffering from the sudden change of circulation to the brain."

Two cases of EXCISION OF THE ELBOW JOINT are reported. Mr. Cooper observes upon the subject:—

"The operation is indicated when it is evident that nature can only effect a cure by anchylosis, and when at the same time it is plain that the constitution is unequal to endure the prolonged and exhausting irritation attendant upon the exfoliation of bone and protacted discharges. Of course, the more the disease has been confined to the structures of the articulation itself, and the less the bone has suffered, the greater will be the probability of a successful result.—I may here remark, that in operating upon the elbow-joint, the inner incision should be carried close to the olecranon process, so as to run no risk of injuring the ulnar nerve, which should be then drawn inwards by a metal retractor. It will not be injured by this step; being protected by the adipose tissue, in which it lies imbedded, and by which, indeed, it is completely hidden. The outer in-

cision should be made sufficiently distant from the olecranon to leave the extent of space required for the removal of the diseased parts; which is much facilitated by flexing the elbow-joint after the transverse incision has been made. It has been recommended to divide the triceps muscles from the olecranon preliminarily, in order that, after the latter has been removed, it may be re-united with the ulna; but I do not think that such a union can occur, except by means of adventitious matter, which in all cases is desposited, and which is always sufficiently firm and continuous to maintain the function of the muscle, and protect the posterior part of the new joint.

With respect to the results and general bearings of the operation, I think the principal benefit derived from it is, that it lays open and perfectly exposes the affected tissues, and thus facilitates their separation; in order to effect which, Nature would otherwise have to form sinuses and ulcerations. The advantage gained by it is better estimated by the extent of surface exposed, than by the quantity of bone removed; no more of which should be brought away than is evidently affected by disease, which we shall generally find, is confined to the articulating surfaces."

CONCUSSION OF THE BRAIN is thus alluded to by Mr. Cooper. "When one or both pupils remain contracted, I am induced, from my experience, to consider this as an unfavourable symptom, characterizing lesion of the brain. In those cases in which I have observed contraction of one pupil, and have had an opportunity of making a post-mortem examination, I have invariably found injury of the brain on the side opposite to that of the contracted pupil. The same violence which produces concussion may cause fracture of the base of the scull: and although the constitutional treatment employed may subdue the symptoms of concussion, during the progress of reparation, effusion may take place, and evidences of compression supervene. Such a complicated injury, however, is generally denoted by bleeding from the ear, at the time of the accident; and I have known a discharge of serum from the external meatus continue for many days after the accident; and yet these cases ultimately did well. Even when this discharge is profuse, it is to be regarded as a favourable symptom, and therefore should not be checked by astringents. The case above alluded to was treated successfully, by general and local bleeding and calomel."

Case of Steatomatous Tumor removed from the Gluteal Region.

John Baldwin, aged 24, a healthy-looking man, by occupation a labourer, was admitted on May 25th, 1841, under Mr. Cooper, for a large tumor in the gluteal region.

History of Case.—He states, that about nine or ten years ago he first discovered a tumor, which he says was then of the size of a pint basin: previous to this it had not attracted his attention. However, as it gave him no pain, he made no complaint, till between two and three years ago, when he consulted a country surgeon, and was taken under his care. After having been in a provincial hospital about three weeks, an attempt was made to remove it, by two elliptical incisions: but the surgeon, during the operation, imagining that it had connexion with the pelvic viscera, desisted from the operation, and closed the wound. In about ten weeks afterwards he went home, and there pursued his usual occupation for two years; but perceiving that since the operation the tumor had greatly increased in size, he became anxious on the subject, and presented himself for admission into Guy's Hospital.

Present Appearances.—The tumor now is very large, and perfectly uniform: no impulse is communicated to it by coughing; but the patient states that no

change is produced in it by passing the fæces, or by any alteration in his position; and it does not increase from exercise. No fluctuation can be discovered. Great difference of opinion was entertained, as to the diagnosis of this case: by some it was considered as an encysted tumor; by others, as a hernia, escaped through the ischiatic notch. Mr. Cooper wrote to the surgeons concerned in the former operation. The information obtained was not considered as conclusive against a second operation. Mr. Cooper, then, with the concurrence of Messrs. Key and Morgan (the man being extremely anxious to have the tumor removed), determined upon an exploratory operation. On Tuesday, July 28th, the man was placed in the prone position upon the operating table: and an incision was made into the tumor, about three inches in length. The several layers, covering the tumor, which lay beneath the glutei muscles, were successively divided; and the nature of the tumor then became apparent. It was, in fact, a large steatoma, and had been covered entirely by the gluteus muscle, which was expanded over it. It was dissected entirely out, and was found connected with the pelvic fascia.

The man endured the operation, which lasted about half an hour, with the greatest fortitude. There was very little hæmorrhage at the time. The wound was closed by two sutures, and the man was put to bed. About four or five hours after, there was some little bleeding, proceeding from several small vessels: of these, four were tied, which appeared effectually to restrain it; a sponge was placed in the wound, and it was closed. In the evening of the same day, the sponge was removed, which was followed by slight hæmorrhage; and two more vessels were secured. The patient had vomited once; but had very slight pain, upon pressure over the abdomen. The wound was closed again by sutures, and warm water-dressing applied. An opiate of the morph. hydro-chlor. was ordered. The case did perfectly well.

VII. Account of a Patella broken transversely, and re-united by Bone. With Remarks on the Nature and Treatment of similar Injuries.—By T. Wilkinson King.

It would seem that this *was* an instance of bony union of a transversely fractured patella. The *points* of Mr. King's remarks are these.

"If the reparative ossification is to be expected mainly on the convexity of the bone, and if this action is regulated by the degree of inflammation, I have to ask, if it be well to subdue the little undue vascularity which quickly follows the injury? And, in order to enforce the reflection, I would almost say, it is desirable to consider the means of exciting and maintaining inflammation on the surface of the patella, rather than strive to obviate the injection, which is too limited, and so superficial as to be peculiarly under the control of topical remedies.

In the absence of experience, I am not inclined to think that abstaining from the application of cold, or even attempts to excite capillary action, will be often found to succeed in uniting the fragments of a patella by bone: but I do consider that the habitual use of cold, in the main, is a needless, mistaken, and pernicious practice; and that some aid is decidedly to be looked for from an opposite method."

"The limb is doubtless to be kept extended and even, as much as may be inclined to form a right angle with the body: but when our minds turn to the means by which the upper fragment is to be drawn down and confined, it should, I think, be difficult to avoid the conclusion, that every thing in the shape of a close-fitting circular strap must be, comparatively, inconvenient, inefficient, and obstructive; producing needless pressure, requiring excessive violence, and causing mischievous congestion and unhealthful actions.

All these influences may, I conceive, be pretty readily obviated by an application of a modified character—a solid pad, long and narrow, and curved along the upper edge of the patella. A torniquet so formed, capable of well-graduated pressure, and applied somewhat obliquely and firmly, but without any circular or constricting bands, would, I imagine, act more completely, and with the least necessary violence, without congestion, or any needless obstruction to the nutrient and reparative actions.

It is not now needful to inquire what force is requisite to resist the efforts of the extensors to displace the bone. Doubtless it is desirable to employ the least violence that will be efficient and secure; and my conviction is, that very slight force will suffice, provided the muscles are carefully set at rest, by attention to the patient's posture; and kept unexerted, by studious absence from all motion: for the patient's exertions in bed, even with the most precise application of straps, &c. (unless they are so tight as to be very distressing) cannot fail to act upon the injured bone."

VIII. ON THE STRUCTURE OF THE BLOOD CORPUSCLE. By G. OWEN REES, M. D. Physician to the Northern Dispensary; and by SAMUEL LANE, Lecturer on Anatomy.

The human corpuscle, say the authors of the Paper, is circular in form, flattened, and presents a double concave surface. When viewed obliquely and nearly in profile, a central depression is distinctly observed. Its diameter measures, on the average, $\frac{1}{3\,2\,5\,5}$ of an inch. The edge will be found to vary much in thickness, as will be afterwards explained. It usually measures about one-fourth the diameter. A front view also shows a concavity, the centre of which is destitute of colouring matter; but no distinct nucleus can be demonstrated in its unprepared state. We have, however, frequently succeeded in bringing it into view, by decomposing the globule by means of water, or of a very weak solution of sugar and water. A drop of blood and a drop of water may be placed close together on a piece of glass, and allowed to coalesce; when the nuclei will be found to collect principally about the lower edge of the specimen: or the method recommended by Hewson may be adopted, which consists in placing some serum, loaded with blood corpuscles, on a piece of glass. The specimen is to be viewed while forming an inclined plane in the field of the microscope: and a drop of water is to be added, in such a way that it may flow from the upper to the lower edge of the piece of glass. In its descent it will be found to alter the form of the blood corpuscle, which becomes more rounded and transparent. The nucleus may now be observed in many of the corpuscles, as they roll down the glass: but we have never seen them, as Hewson describes them, moving like a pea in a bladder, as the corpuscle turns upon its axis. In order to convince himself of the existence of a nucleus, the observer should treat the blood of a bird and of the human subject in the same manner. In the former, he will have no difficulty in seeing and separating the nucleus, and in the latter, by transferring the information thus gained, he will, after some little trouble, be enabled to recognize similar appearances, to his entire satisfaction. As we before stated, many of our most accurate observers—Magendie, Hodgkin, and Lister—have denied the existence of a nucleus in the corpuscles of mammalia; and, as far as we know, no description has been given of it, which would in any way meet our views of its form, size, and appearance. The nucleus of the human-blood corpuscle is composed of a thin circular layer, of a colourless substance. Its surfaces are granular, and its edge uneven. It is only about one half less in diameter than the blood corpuscle itself; for which, no doubt, it has been frequently mistaken. It measures from $\frac{1}{4\,5\,0\,0}$ to $\frac{1}{6\,8\,7}$ of an inch in diameter. Its thickness cannot be so satisfactorily stated; it does not appear

to be more than one-eighth, or one-tenth of its diameter. It may be demonstrated in its moist or dried state, either within its envelope, or separate from it.

Several circumstances have combined to render this nucleus difficult of observation, and which may serve to account for its eluding the notice of so many micrographers. Its thin shape, circular form, and large size, have led to its being mistaken for the blood corpuscle, deprived of colouring matter; while the erroneous notion that the nucleus was a small globular body has not only favoured the misconception, but has led those who have looked for a nucleus of this form to deny its existence altogether. The edge, also, of the nucleus projects so far into the colouring canal, that its defined margin cannot be seen, until this has been destroyed by the removal of the envelope. The envelope in the human subject does not differ in any essential particular from that of the frog. It forms a closed flattened vesicle, the interior of which adheres firmly to the central part of both surfaces of the nucleus, but not elsewhere. The envelope, like the nucleus, is circular, and forms a complete annular canal around it, in which the red colouring matter is situated.

IX. A CASE OF INTESTINO-VESICAL FISTULA. By MR. HINGESTON.

The patient was a gentleman, residing in the heart of London, of strumous diathesis, and corpulent make. He had pretty good health till the 5th of May, 1835, when he dislocated his shoulder, which was easily reduced. On the 21st of September of the same year, he was seized with acute pleurisy of the right side, giving rise to strong arterial action, inflammatory fever, hæmoptysis, &c. demanding prompt venesection, salines, mercurials and abstinence, for its reduction. And in the same year, on the 2nd of December, in the middle of the night, profuse hæmoptysis occurred; and venesection was again enforced twice in forty-eight hours, with repose in bed, abstinence, salines, and diuretics.

These two attacks, and the loss of blood consequent upon them, sapped his strength, and evidently made him thinner. In the spring of the following year (1836), he complained of debility; and (May 25th) suffered from passive bronchitis and anorexia, requiring carminatives and warm aperients.

Throughout his life he had always been troubled with diarrhœa, which seemed beneficial rather than otherwise; besides being afflicted with a mucous cough, or occasionally with sub-acute bronchitis. It was during one of these attacks that, in the act of coughing, he ruptured himself on the right side (September 5, 1836.) To this hernia, which was inguinal, a truss was applied, and it was cured.

In January, 1837, he had the influenza in a low form. In April he first complained of painful micturition, which subsided in May. In 1838, the "strangury" returned, with the odour and presence of fæces in the urine. In the course of February and March, the malady became excessive and exhausting. Fæces, in a soluble state, streamed away from the urethra, intermingled with urine and gusts of wind; the natural office of the rectum was suspended, or performed with irregular and untimely calls; and the heart and nervous systems were disordered. The urine, at this time, was acid and albuminous.

The plan of treatment adopted was that which was, with some modification, continued to the last; viz. opiates, repose, a pultaceous diet, washing out the rectum, and a regulated temperature night and day. By these means the misery was alleviated, and the natural passage of the rectum kept clear and pervious, while the false outlet through the bladder was lessened or diverted.

In June of this year, the first collapse took place; it followed upon a violent and uncontrollable irruption of wind and fæces through the urethra, completely upsetting the residue of the strength, and threatening speedy dissolution. The

vehemence of the paroxysm was assuaged by successive doses of opium carefully repeated and watched, warm fomentations, diluent diet, and the recumbent posture; followed by ammonia, wine in arrow-root, and sustaining food. The habitual dose of opium, night and morning, was from 30 to 40 minims of Batley's sedative solution.

By diligent perseverance in this plan, the disease was reduced to a state of quiescence. The fæces were passed by their natural course, or but rarely found their way through the bladder, discolouring the urine; and the only evidence of the fistulous orifice continuing unclosed, was the occasional and unexpected explosion of gusts of wind from the urethra. Even these at length ceased, and the year 1838 terminated in a suspension of all threatening symptoms. The constitutional powers, however, seemed to decline.

In February, 1840, at a time when the fistulous opening seemed to be closed and the general health to be much improved, hæmoptysis again recurred, and a cavity was discovered in the top of the left lung. Depletion was requisite. His strength was prostrated—the irruption of the fæces with the urine recurred—tympanitis was added—and acute peritonitis, unhappily demanding a fresh venesection to twelve ounces, and showing buffy blood, almost seemed to imply that a perforation from the intestines into the abdominal cavity might be impending. The balance of the circulation was now never restored; for venous congestion was manifested, both by the darker hue of the countenance, and the blueness of the nails. Tympanites never ceased to be present; and though the fistulous opening into the bladder became finally silent in August, 1840, yet the evidence of stricture at or about the sigmoid flexure of the colon became every day less and less questionable. Ascites succeeded, and on the 13th of April Mr. Key tapped the patient, and drew off about three pints of fluid. A very feeble reaction developed inflammation along the arch of the colon; under which he sank, April 15th, in the 65th year of his age.

During the anasarca and ascites, the urine was neither alkaline nor albuminous.

Dissection.—The body was emaciated, the lower extremities œdematous, and the course, as well as the figure of the colon, could be distinctly traced beneath the integuments, across the umbilicus.

The Abdomen.—On dissecting back the integuments, and laying them open, the colon presented the appearance of a large tromboon, amazingly distended, and stretching across the umbilical region, with its sigmoid flexure, equally large, in the left iliac fossa. The space above its line was occupied by an enlarged liver, and that below by the small intestines.

The omentum was shrivelled, and drawn across to the right iliac fossa; where it was adherent to the parietes above the internal abdominal ring (which was not at all dilated on either side, although a hernia was said to have existed formerly.) The peritoneum was universally opaque and injected; especially around the point of paracentesis, and also in both iliac fossæ, where the intestines were involved in a mass of adhesions. There was much buttery lymph both in the bason of the pelvis, and smeared over the surface of the intestines: and the intestines were of a very lacerable texture, devoid of scybala, containing only some fæculent matter and much flatus.

The sigmoid flexure of the colon, just above the rectum, the ileum, and the cæcum, with its appendix, were each and all adherent, *en masse*, to the fundus of the bladder, and involved in a general thickening of the surrounding textures.

Thorax.—Both the lungs were firmly attached by old adhesions; especially at their apices, which were interspersed with small tubercular excavations about the size of a bean, and lined by (an acquired) mucous membrane. The surrounding perenchyma was crepitating, and but little consolidated. The basis of each lung was crepitant, and healthy.

The bladder, with the adherent intestines, was removed; and a particular dissection made of them, as follows:—

The colon, hypertrophied, singularly muscular, and in circumference about the size of a man's arm, was, together with a convolution of the ileum, and the appendix cæci, adherent to the fundus of the bladder. The natural course of its canal was impeded by a contraction or stricture, which commenced inferiorly in the rectum, about the fore-finger's length from the anus (just at the base of the triangle formed by the vesiculæ seminales), and extended upwards for about two inches, barely admitting the entrance of the little finger. A section of the gut in this part resembled scirrhus; and the glands were, with the surrounding tissues, thickened.

Immediately above this stricture, the coats of the bowel were riddled with ulcerations and openings, leading into a channel which separated the bladder from the intestine. This channel was, in fact, a feculent abscess, situated beneath the reflected portion of the peritoneum, between the bladder and bowel. It was degenerate in structure, lined with a dark membrane, and filled with a muco-purulent excretion. It opened, anteriorly, into the fundus of the bladder; above, into the colon; below, into the rectum; and posteriorly, through the colon into the ileum: so that there was a false passage, by which the natural course of the colon was diverted, and forced between the bladder and strictured part of the intestine down into the rectum below, and at the same place, by means of a fistulous opening, into the bladder in front. The orifice of this fistulous opening within the bladder was curtained by a fungous growth or thickening, which overhung it like a valve Thus, exactly at this point of the fæculent abscess, there was this strange deformation;—the colon—the rectum—and the ileum: each, conjointly with the fæcal abscess, possessed one common entrance into the bladder itself.

Within the bladder, the rugæ of its mucous membrane were vascular, and its muscular coat was considerably hypertrophied.

X. On Chorea. By B. G. Babington, M.D. F.R.S.

Dr. Babington remarks that,—previous to Dr. Hall's researches, the proximate cause of chorea was supposed to consist in debility, and some degree of irritation of the organic class of nerves: extending more or less to those of volition; and occasioning morbid susceptibility of the nervous system generally, with diminution of power, increased mobility, and irregular actions of the muscular system, particularly of those muscles supplied with the nerves principally affected.

Let us contrast this loose and general account of the pathology of chorea with that offered by Dr. Marshall Hall. He first maintains, as principles of physiology, that, besides the contractile power in muscular fibre itself, there are three causes of muscular motion:—1st, Volition; the seat of which is the cerebrum, and the action of which is conveyed along the fibres which decussate in the medulla oblongata. 2ndly, The direct and reflex action of the excito-motory system. And 3dly, Emotion.—He affirms, that the seat of emotion is below that of volition; is in the medulla oblongata; and acts along fibres which probably do not decussate; and, that the seat of the excito-motory system is in the spinal cord. He further remarks, that volition has an aim or object; while emotion, and the excito-motory function (or *vis nervosa* of Haller), are aimless on the part of the individual, and frequently opposed to volition.

According to Dr. Hall's earlier papers, chorea was considered an affection of the true spinal system; affording an example of the want of harmony between the cerebral and the true spinal acts. The volition was affirmed to be normal; but the true spinal acts to be abnormal, for want of a precise harmony between the two. This view, however, did not account for the absence of chorea during

sleep: for it is one characteristic of the excito-motory function, that it goes on during sleep; so that a disease asserted to be dependent on a morbid condition of that function, ought to be at least as manifest during sleep—when volition, as a disturbing cause, is abstracted—as in the waking state: but the contrary is notoriously the fact; all the symptoms of chorea ceasing as soon as the consciousness of the waking state is suspended. It was necessary, therefore, to seek further for an explanation of this circumstance. "It is well known," says Dr. M. Hall, "that the irregular movements in chorea, and in incipient paralysis agitans, subside during sleep. I was long perplexed to account for this fact. It was only by observing that these movements subside during quiet sleep only, and return during the agitation of dreaming, that I perceived that it is not sleep, but the absence of emotion, to which this effect is to be ascribed;—dreams during sleep having the same effect as emotion in our waking hours." This, then, I take to be his view of the pathology of chorea—that it is a morbid condition of the organ of emotion, which has its seat in the medulla oblongata, and is wholly independent either of the brain or the ganglionic system.

Dr. Babington adds:—

"I should define chorea to be a disease characterized by irregular uncontrollable contractions of the voluntary muscles, alternating with their atony, and occurring without pain. I have used the word 'contractions,' and have included the atony of the muscles in this definition, because the movements in this disease appear to me to differ essentially from those of convulsions and epilepsy in this,—that the stimulus, whatever be its nature, which excites either the whole or a portion of the voluntary muscles to involuntary action, is not more violent in degree than the normal stimulus of the will, or of the excito-motory system; so that movements, almost incessant indeed, but not exaggerated like spasms, are the result. It will illustrate my meaning, to state, that a person in sound health could, at any one moment, perfectly imitate, by an exercise of the will, every movement which he would involuntarily perform if he were the subject of the most aggravated form of pure chorea. Again, there is another circumstance which seems to me to attend the movements in chorea, and which may furnish ground of distinction between this and truly spasmodic seizures. The nerves, in their normal state, are always exercising a certain amount of influence over the muscles; so that where there is antagonism of forces, it is only necessary to remove the one opponent in order to demonstrate that the other is in a state of activity. This being the healthy condition, we have a right to consider the diminution of this activity as a morbid state; for although, from the striking effect which a morbid exaltation of muscular force produces, spasm is more directly brought to the cognizance of our senses than atony, still the latter is no less a really morbid condition than the former. I venture, then, to express my belief, that while, in true convulsions, the muscles, after having been thrown into a spasmodic state, do only return to the normal condition; in chorea, on the contrary, a further diminution of nervous influence occurs; so that the muscles become, in all marked cases, entirely passive and inert in the intervals between their irregular and involuntary actions. This is manifest, from the manner in which the limbs drop from the position into which they have been thus thrown; in which the head, after being tossed to and fro, will fall passively on the shoulders, and from the incapability on the part of the patient to hold any thing in his grasp."

Dr. Babington offers a good account of the history and symptoms of chorea. And his allusion to the exciting causes of the complaint is lucid. If we affirm, he says, that the primary seat of chorea is in the medulla oblongata and spinal marrow, we must at the same time admit that this may be affected through the medium of its connexion with the sensorium on the one hand, and with the ganglionic system on the other. Its exciting causes will thus naturally divide themselves into three kinds; namely, 1st, Those which primarily affect the spinal

system: 2dly, Those which secondarily affect it through the sensorium: 3dly, Through the ganglionic system. Blows on the head or neck, causing a *contre-coup*, which shall either structurally injure or functionally disorder the medulla, occasionally give rise to chorea, not only at the time of their occurrence, but at uncertain periods afterwards: so also injury of the spinal marrow, by direct compression; alteration of its structure by rheumatism; and perhaps its irritation, by certain injurious practices;—the irritation of the incident nerves, by a wound, by the poison of mercury, of lead, of strichnine, and by skin diseases. Of those causes which act primarily on the sensorium, by far the most frequent is an affection of the mind, arising from any of the depressing passions; as from sudden fear, from horror, from grief. Perhaps, however, these causes should be rather considered as of the first kind, if the theory be adopted, that the seat of emotion is in the upper part of the spinal cord, and not in the brain. Other causes more evidently first affect the sensorium; as, organic diseases of the brain, fever, epilepsy, hysteria, and mental alienation. Of those causes which act primarily on the ganglionic system, may be enumerated, costiveness of bowels, with morbid accumulations in them, and worms of different kinds. Rheumatism also, when it affects the heart and pericardium, may give rise to the disease, through the irritation of the plexus and ganglia, which so entirely surround that organ, and the origin of its great vessels: and irregular mentruation may produce a like effect, through the lumbar plexus.

In a note we find the connexion between chorea and cardiac affections noticed still more pointedly. We transcribe the note in question.

"Out of a very large number of cases of chorea, seen lately by my friend and colleague, Dr. Addison, to whom I am indebted for having first directed my attention to this point, only two have been without a decided mitral or left ventricular bruit. In these two there was diseased heart; and in one case, examined after death, there was found old thickening of the mitral valve, with very recent pericarditis. Should further investigation prove chorea to me more immediately dependent on disease of the heart or pericardium, than has been hitherto supposed, the merit of the discovery will certainly be due to Dr. Addison." But we cannot help suspecting it will turn out otherwise.

Dr. Babington relates twenty-five cases, none of which require notice. The gist of the matter—the treatment, is thus handled.

He has not found any one remedy so superior in efficacy to the rest, as to induce him to abandon all others in its favour. On the contrary, the most powerful will sometimes disappoint our expectations; and we are then obliged to try one after another; and in the end, perhaps, remain uncertain, should the patient do well, whether the recovery is to be attributed to the means employed, or to the power of Nature herself. Dr. Babington, therefore, treats the cases *rationally*.

Where there is evidence of congestion in the head, marked by giddiness and headache, occurring in subjects of a full habit and florid countenance, the treatment should be commenced with moderate depletion; which, however, it would be more advisable to effect by leeches or cupping-glasses, than by the use of the lancet; and these should be applied to the nape of the neck, or behind the ears. Attention to the state of the bowels is of course, in all cases, indispensable, even though the general treatment should be of a tonic character: but wherever there is reason to suspect that the symptoms are dependent on a constipated or loaded state of the bowels, or their irritation from the existence of unwholesome aliment, purgatives should be administered freely and frequently; and those of the more active kind should be employed. As this state of the *primæ viæ* exists in a great many cases, it is not difficult to understand why the purgative plan of treatment has proved frequently successful. Where worms, and especially tænia, cause the irritation, turpentine, and other anthelmintics, will prove most successful; and

these cases also will swell the list of those who will be benefitted by brisk and repeated purgatives.

Where there is reason to think that the disease is connected with the state of the uterus, occurring about the period when the catamenia should appear, and combined with symptoms of hysteria, those remedies will naturally suggest themselves which have a special power in causing this discharge, in obviating its irregularity, and in correcting its unhealthy character. The state of the teeth should also be looked to about the period of the second dentition; and even on the cutting of the dentes sapientiæ, as a probable source of irritation;—and the gums should be lanced, or the decayed roots of the first set removed, according to circumstances.

Where the disease has arisen from a metastasis of rheumatism to the fibrous structure of the theca of the cord, it ought to be treated in the same way as pericarditis,—by depletion, general or local, antiphlogistics, and the employment of mercury, carried to slight salivation.

The following are Dr. Babington's opinion on the subject and comparative value of tonics.

"In a very numerous class of cases which owe their origin to sudden emotion, producing a strong impression upon a weak and excitable nervous system, the patient will be most benefited by all those remedies which improve the general health, and give vigour and tone to the nervous and muscular systems. The most severe case I ever saw recover, was cured in a few days by divided doses of port-wine, in which enough of sliced rhubarb was steeped to render it gently aperient. Various vegetable tonics have had their advocates; but bark and sulphate of quinine may be taken to represent them all. The metallic salts and oxides have, however, of late years, been generally preferred. Sesqui-oxide and sulphate of iron, sulphate of copper, oxide and sulpate of zinc, nitrate of silver, and arsenite of potassa, have all been tried, and found, in different hands to succeed. The testimonies in favour of sesqui-oxide of iron in large doses, and of sulphate of zinc, are perhaps the strongest. On the latter remedy I have generally, in the cases which I have just alluded to, most relied: and my expectations regarding its efficacy have seldom been disappointed. I have found it necessary to administer much larger doses, however, than are usually given; good effects seldom being perceptible until twelve or fourteen grains are taken three times a-day. By gradually increasiug the quantity a single grain at a time, even much larger doses than this may generally be employed, without exciting sickness, and with the best effect. I have known half-drachm doses, thrice a day, taken for several weeks in succession.

Sulphate of zinc, however, will not be borne by all stomachs, even in small doses; and we are then obliged to give up its employment, long before we have attained even the minimum dose requisite to give it a fair chance of controlling the disease. In such cases, I generally have recourse to the liquor potassæ arsenitis, cautiously increased in its dose from three to twelve or fifteen minims, according to the age and strength of the patient, and other concomitant circumstances. I believe this is the most powerful remedy of all—at least I have found it so. in several obstinate cases; but I am deterred from employing it, where other remedies will succeed, from the sickness and griping pains which it is apt to cause, and from some fear that the constitution may be permanently injured by its continued employment.

As an external remedy, the shower-bath may be very often advantageously used, in conjunction with internal means; and I have even tested its efficacy with success, when used alone. In St. Petersburg, I am informed by a Russian physician, a new practice has, within the last year, been adopted with eminent success in obstinate cases of chorea. The patient is placed in a bath as hot as he can bear it; kept there for half-an-hour; and, when thus thrown into the most profuse perspiration, is suddenly plunged into cold water.—I have not

ventured to try this method of producing a sudden shock; or rather, I should say that opportunity has been wanting, since I have been made acquainted with it; but in an extreme case, and when other remedies had failed, I should, on the testimony I have received in its favour, not hesitate to employ it.

The treatment by electricity is very advantageously revived at Guy's Hospital. We have given an account of Dr. Golding Bird's paper upon this subject.

BALTIMORE HOSPITAL.

REPORT OF CASES TREATED IN THE HOSPITAL. By SAMUEL ANNAN, M.D. Senior Physician to the Institution.*

From amongst the cases reported by Dr. Annan, we shall select one or two.

CASE 1.—*Paralysis of the Left Side of the Trunk and Extremities, and of the Right Side of the Face.*—S. G., ætat. 28, negro, admitted April 7th, died June 5, 1840. On the 14th of May, 1839, while engaged in washing, was suddenly seized with an acute pain of the right side of the head, and fell down in a state of insensibility, in which state she remained during twenty-four hours. When she recovered her senses, she found she had entirely lost the power of moving her left arm, and in a great degree that of moving the leg of the same side. The right side was unaffected, with the exception of the face, the muscles of which had become paralyzed; those of the left side of the face still retained their accustomed power of motion; when her tongue was thrust out, it inclined very much to the right side; the sensibility of the left side was destroyed, and likewise that of the right side of the face; she could not hear with the right ear. The right eye became inflamed several weeks before her death, and the cornea was slightly ulcerated; the upper eyelid was constantly raised. When she attempted to speak her muttering was scarcely intelligible; paralysis of all the parts affected was complete; deglutition and mastication were performed with great difficulty.

Dissection twelve hours after Death. Brain.—There was venous congestion of the surface, and of the medullary centres of the hemispheres of the cerebrum. There was a fibrous, semi-cartilaginous tumor on the right side of the tuber annulare and medulla oblongata, seated in the substance of the dura mater, arachnoid membranes and the pia mater. It extended from the point where the fifth pair of nerves arises from the tuber annulare, covered the origin of this nerve and the whole of the right side of the tuber below this, and passed down along two-thirds of the medulla oblongata, and adhered to the right side of the basilar artery. The right vertebral artery was enclosed in the substance of the tumor. It was about two inches long. The surface of the root of the right crus cerebelli, on which it pressed, was softened, as was also that part of the tuber annulare, on which it lay. It was incorporated with the substance of the right side of the medulla oblongata, and had produced softening as far as it reached. This softening extended through the posterior tract, but became less as it approached the posterior surface. The anterior tract was a pulpy mass. Neither the anterior nor the posterior tract of the left side was perceptibly affected. The tumor pressed upon, and had caused softening of the roots of the fifth, seventh, eigth and ninth pairs of nerves. The bone was rough about the foramen lacerum posterius, and the condyloideum anterius. The liver was of a yellow colour.

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* American Journal, Med. Sciences, July, 1841.

The remarks of Dr. Annan are physiologically just and instructive. "The symptoms," he observes, "in the case given above, correspond very exactly with the seat and extent of the disease. The right side of the medulla oblongata was softened to the extent of complete disorganization. There was complete paralysis of both motion and sensation on the left side. The decussation of the fibres of the corpora pyramidalia, explains the loss of motion of the opposite side; but as we have no facts proving a similar interlacement of the fibres of the posterior or sensory tract, it is not so easy to discover how it happened that the right side was not deprived of sensation. Motion and sensation were unimpaired in the extremities of the side diseased; they were both destroyed in the same parts of the opposite or left side. Are we not justified, from this, in making the inference, that there is a decussation of the filaments of sensation, as well as those of motion?

The fifth pair of nerves is formed, on each side, of two sets of filaments, viz., one for motion, the other for sensation. The former take their origin from the intercebral commissure, which lies between the cerebrum and cerebellum, and is composed, in part, of the valve of Vieussens; while the latter can be traced down the posterior columns of the spinal cord, about an inch and a half below the tuber annulare. They were both pressed upon, by the upper part of the tumor, at the point of their emergence from the tuber, and the sensory portion, was involved in the general destruction of the texture of the medulla oblongata. The motory filaments being distributed to the muscles concerned in the motions of mastication, viz., the masseter, temporal, pterygoid, and buccinator, and those of the right side being paralysed, the power of masticating food was consequently rendered imperfect. The sensory portion, distributing its filaments to the mucous membrane of the nose, of the palate, the pulpy structure of the teeth in both jaws, the papillæ of the tongue, many parts contained within the orbit, the lachrymal apparatus, the conjunctiva, &c. and the skin covering the face, all these parts were necessarily deprived of sensibility. The seventh pair, formed under the old division of the facial and auditory nerves, or of the portio dura and portio mollis, is attached to the medulla oblongata, between the corpus pyramidale and olivare, just below the pons Varolii, and was involved in the disorganized mass. The facial nerve supplies the muscles of the face, including the orbicularis palpebrarum. The paralysis of this muscle prevented the closure of the eyelids; and the consequent exposure of the eye to particles of dust contained in the air, with the diminished sensibility of the conjunctiva, from the paralysis of the sensory portion of the fifth pair, the eye not feeling the irritation, of course no tears were secreted to wash out the irritating matter, explains the inflammation of the conjunctiva with ulceration of the cornea. The auditory nerve being destroyed, there was deafness of that ear. The glosso-pharyngeal, par vagum, and spinal accessory nerves, were all destroyed. The first supplies the muscles of the pharynx and tongue: the second distributes motor filaments to the larynx, furnishing the muscles concerned in the production of vocal sounds with motory power. The ninth, or lingual nerve, was likewise included in the disorganized mass. It goes to the muscles of the tongue, and also to those of the os hyoides. The muscles of the larynx and tongue of one side, having thus lost their power of motion, speech and deglutition were rendered imperfect. The genio-hyo-glossus of the opposite side, retaining its power of acting under the will, pushed the tongue to the right side when it was thrust out. We thus have a satisfactory explanation of the whole extent of the paralytic affection."

CASE 2.—*Pleuræ Pneumonia.—Pneumo Thorax.—Gangrene of the Lungs.*—M. R. ætat 19, admitted May 2nd—died May 3rd, 1840. This girl was a prostitute, and the persons who brought her to the institution, said she had been ill two weeks; she was delirious, and incapable of giving any account of herself;

she had been attended by a physician, but no information as to the treatment adopted could be procured; she was very restless, and was constantly talking and groaning: the skin and white of the eyes were of a bright yellow colour; tongue dry, and coated with a yellowish brown fur; teeth covered with dark brown sordes; respiration frequent, but not laborious; pulse 120, and of tolerable strength: there was general dulness of the chest, on percussion, with feeble respiration. Eight ounces of blood were taken from her arm, and she was ordered two grains of calomel every two hours until it purged. Early the next morning, her breathing suddenly became very laborious, and in the afternoon was extremely so accompanied by great heaving of the chest; pulse 120, full, but compressible. She was ordered infusion of serpentaria, with camphor julep; she died that night.

Dissection, 12 *hours after death.—Brain.*—There was great congestion of the large veins of the surface of the hemispheres, and numerous, and large red points were visible, on slicing the medullary substance. *Thorax.*—On cutting into the left cavity of the chest, air rushed out with a whizzing noise. The left lung was pressed close to the spine, and was of a dark brown, and in spots, of a black colour, and had a coating of dark brown lymph, tinged with yellow, over nearly its whole surface. Eight or ten spots, some as large as a walnut, were in a state of sphacelus; and were reduced to a black, soft, pulpy mass. These, when cut into, gave out a very fetid gas. The pleura had given way over one of them, and air had escaped; the larger part of this lung was hepatized. The bronchial tubes were of a dark red colour. The right lung presented the same appearances, but in a less degree. Only two or three spots were gangrenous, and hepatization had not advanced so far. *Abdomen.*—The mucous coat of the stomach was considerably congested. That of the small intestines in a slight degree; the other viscera were normal.

Dr. Annan remarks:—"This case which I have just narrated, is remarkable for the extent of the disease, and the occurrence of hepatization between the gangrenous spots. Both lungs would appear to have been very generally affected with pneumonic inflammation, which being improperly treated, and the constitution having been greatly debilitated by previous excesses, it passed rapidly into gangrene. Hepatization took place over all the spaces between the gangrenous spots. If the vital powers had not been so greatly impaired by a long course of dissipation, the pneumonia would have passed on to its ordinary third stage, viz. purulent infiltration. There would appear not to have been sufficient energy to elaborate pus. It is surprising, too, that there was neither cough nor expectoration. The delirium was the prominent symptom, which made me suppose that the brain was the organ chiefly implicated. Dissection showed congestion of the brain, but not in sufficient degree to have proved fatal. If, instead of exhibiting incoherent muttering and groaning as the prominent symptoms, she had been harassed with incessant cough, accompanied by fætid expectoration, the case would have been plain enough. As it was, the attention was drawn off from the lungs to the brain. It should, however, be remembered, that fætor of the sputa alone, is not pathognomic of gangrene of the lungs. It is true, that the breath and sputa are, in this disease, from the first, nearly as offensive as when the fætor becomes of the true gangrenous character. This is owing to the depraved condition both of the fluids and solids. But it is well known, that this state of things often occurs where gangrene of the lungs does not exist." No doubt too great importance has been assigned to fætor of the sputa as a characteristic sign of gangrene of the lungs. But if, in addition to this fætor, the sputa are observed to be bloody, brownish, or greenish—something like the discharge from a sloughing part; and when any thing like green fragments of lymph are seen, together with a weak pulse, an elongated countenance, and a cadaverous aspect; in short, when the patient is in a state in which we

see people when they are sinking from mortification of any other part; there can be no doubt of the nature of the disease.

GLASGOW ROYAL INFIRMARY.

CASES WITH OBSERVATIONS. By WILLIAM DAVIDSON, M.D. Senior Physician to the Infirmary.*

1. The first case detailed by Dr. Davidson is one of chronic pleurisy. Paracentesis was performed between the 6th and 7th ribs on the left side. Twenty pounds (apoth. weight) of serum were evacuated. It had a yellowish colour, was nearly transparent, adhesive, almost solidified by heat and nitric acid, and had a specific gravity of 1016. The fluid re-accumulated, and a small grooved needle was inserted into the left pleural cavity, near the cicatrix of the former opening, and, a large cupping-glass being applied over it, forty ounces of reddish-coloured serum were drawn off. Next day a small trocar was inserted by Dr. Lawrie, and twelve pounds (apoth. wt.) of serum were drawn off by cupping-glasses. The patient subsequently died.

Dr. Davidson makes some remarks on the mode of performing the operation.

"The operation for empyema is not very frequently performed, for on the one hand there are the difficulties of the diagnosis, and even when the signs are pretty clear, there may be some doubt about the state of the lung; and on the other, the danger of exciting a pleuritic inflammation A plan, therefore, which may tend to remove or lessen any of these objections is worthy of consideration. The chief danger of the operation arises from the admission of air into the pleural cavity, and this cannot be avoided by the ordinary method, and if the stethoscope be applied to the chest during the evacuation of the fluid, atmospheric air can be heard entering its cavity with a noise similar to that produced by emptying a bottle nearly filled with water. To obviate this result, it occurred to me that the fluid might flow through the channel of a grooved needle, with the exhausted cupping-glass placed over it; this I accordingly tried, as stated in the report, and it succeeded perfectly, but the quantity of fluid being very great, it was necessary, in the second trial, to use a small trocar. One practical difficulty occurred with the canula, but not with the grooved needle, viz. its liability to slip from the opening, when the cupping-glass was applied, which is obviated by previously tying it around the chest by a piece of narrow and very thin ribbon. The cupping-glass employed was curved, and capable of containing about two pounds of fluid, and it was exhausted by a piece of ignited lint, which had previously been dipped in alcohol. Very little air, as far as could be ascertained, entered the pleural cavity, and it is a good practical rule to hold the finger over the mouth of the canula, during the changing of the glasses, which ought to be frequently done, as it lessens the duration of the operation, by causing the fluid to flow in a full stream, whereas, without the aid of an exhausted cupping-glass, it would do so very slowly. The same plan of operation I have frequently adopted in opening chronic abscesses, even in the knee-joint, without any subsequent irritative fever or inflammation, and in one or two cases, even in cachectic constitutions, there has been no re-accumulation of matter, when firm bandaging was afterwards had recourse to."

In another case, the operation was conducted exactly as described in the former, and the narrow piece of ribbon employed was completely successful in

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* London and Edinburgh Journal of Medical Science, No. 11.

retaining the canula. A few bubbles of air got admission into the pleura, which is inferred, as stated in the report, from the metallic tinkle, which was heard two or three times. This may, he thinks, be obviated, by withdrawing the cupping-glass whenever the fluid ceases to flow in a stream, and applying another one.

2. *Rubbing Sound in Pericarditis.*

W. A., aged 15, of delicate and rather unhealthy constitution, was seized, on the 10th April, 1841, with a slight shivering, some pain in left side of chest, slight dyspnœa, cough accompanied with a slightly acceleratrd pulse, hot skin, and furred tongue. On the following day the chest was examined, but nothing was discovered abnormal, except a pretty general bronchitis. On the 16th, he complained of rather acute pain in the cardiac region, accompanied with dyspnœa, the pulse being 100, moderate in strength and regular. On percussion, the whole of anterior chest was found clear, except the right submammary region, which was slightly dull, and a dry subcrepitation was heard there with the stethoscope. The sounds of heart were rather loud, the impulse being pretty strong, and a rubbing sound was heard accompanying its action, about an inch below nipple, and a little to its right. This rubbing sound was tolerably distinct even during respiration; but in order to be sure that it was not connected with this process, the patient was desired to hold his breath, when it was most distinctly recognised as accompanying the motions of the heart. Although I listened to it very attentively on several occasions during the three or four days that it was discoverable, I was unable to connect its precise similarity to any other friction sound with which the generality of men are familiar. It certainly was not like the creaking of leather, but if I were obliged to give an expression to my perceptions, I would say that it resembled somewhat the sound produced by the friction of one piece of woollen cloth against another. This friction sound, as already mentioned, only continued for a few days, and after that period, there was distinct and extended dulness of percussion in the cardiac region, accompanied with palpitation, irregular pulse varying from 120 to 130. On the 6th May, his symptoms were the following—urgent dyspnœa; palpitation on the slightest movement; pulse 130, irregular, intermittent, weak; frequent cough; expectoration—a greenish, tenacious mucus; dulness of percussion in cardiac and both submammary regions; action of heart, weak, irregular; dry subcrepitation in right submammary, and in part of left submammary regions, accompanied with considerable fulness in the intercostal spaces of left chest and epigastrium, with œdema of the lower extremities. He lived nine days after this period, but the symptoms did not differ materially from those now mentioned. His treatment consisted of antimonials, purgatives, calomel and opium to salivation, leeches to the cardiac region, repeated vesicatories, diuretics, and, towards the close of his disease, anodynes.

Inspection.—Inferior lobes of both lungs were red, congested, and slightly crepitant, bronchial tubes were reddened, and they contained an opaque somewhat tenacious mucus.

Pericardium was enormously enlarged, extended beyond sternum a considerable way towards right side, and covered completely the lower half of left lung. On laying it open, about three pounds of thin whitish pus, mixed with white-coloured flakes of lymph, were evacuated. The internal surface of pericardium was whitish, rough, and covered with numerous patches of lymph and adherent flocculi. The heart was large, very flaccid, rather displaced or twisted to the right side, to which its apex pointed almost directly. Its pericardial covering was almost completely coated with patches of lymph, and rough fibrous vegetations. The valves and internal membranes of heart appeared to be quite normal. No other morbid appearance was discovered in the chest or abdomen. The head was not examined.

3. *Diagnostic Symptoms of Malignant Disease of the Liver.*

The symptoms of the disease during life are involved in still greater obscurity than its pathology, and, in the early stages, our opinions must be little better than conjectural. The general symptoms of gastric and hepatic derangement are not to be depended on, for they are common in other affections of the liver; and Cruveilhier states, that the enlargement of this organ, and the elevations on its surface, are the only pathognomonic signs. In the majority of cases that I have witnessed, pain, frequently of a severe kind, was experienced in the right hypochondrium or epigastrium, and the termination of the disease was more rapid than in other hepatic affections. If, then, the liver be found considerably enlarged, distinctly nodulated—if the disease be accompanied with severe pain in the hepatic or epigastric regions—if it be somewhat rapid in its progress, and if the features of the patient have a very cachectic or sunken appearance; then there can remain very little doubt of the malignant nature of the affection.

CLINICAL REMARKS BY DR. MARSHALL HALL, ON THE USE OF SETONS.*

Many years ago, I was consulted by Mr. Doubleday, of Blackfriars Road, in the case of a young married lady, who had suffered from peritonitis after her first accouchement.

This peritonitis appeared to be confined to the pelvic region. Its acute character had been subdued, but tenderness, with tumidity, and difficulty in voiding the bladder and rectum remained. I made a careful examination. A distinct hardness was felt under the pubes, extending to one side, I think the left. On examination per vaginam and per rectum, a similar hardness was found occupying the lower part of the pelvis. I imagined this hardness to consist in coagulable lymph, effused from the inflamed peritoneal surfaces of the pelvis, producing the symptoms by its pressure on the neck of the bladder, and on the rectum.

We strictly regulated the diet and the intestines, and inserted an ample seton over the induration. Slowly and gradually that induration, with its attendant symptoms, became diminished, and eventually disappeared.

Several years after this, I was consulted in the case of the sister-in-law of this patient, under very nearly similar circumstances. The same remedy was followed by the same happy result.

A year ago, I was consulted by Mr. Burford, in the case of a gentleman of sixty, who had become affected with pain, tenderness, and tumidity of the abdomen. On a careful examination, a distinct hardness was felt, in the midst of the general tumidity, occupying the region of the caput cœcum coli. We regulated the diet and the bowels, administered mercury, and inserted an ample seton. The mouth became affected, and the seton discharged copiously: the hardness and the other symptoms gradually, but at length, entirely disappeared.

A similar case occurred a year ago, in the person of a gentleman of forty, a patient of Mr. Squibb, in Orchard street. A strict regimen was enjoined, the bowels regulated, and an ample seton was inserted. The induration, which in this case occupied the space between the false ribs and the ilium, on the left side, gradually disappeared.

Two years ago, I was consulted by Mr. P——, a barrister, affected with pneumonia of the midele and upper lobes of the right lung. A seton was in-

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* London and Edinburgh Journal of Med. Science, No. XI.

serted, and Mr. P—— went to Madeira. On his return, the physical signs and the symptoms of the pneumonia had disappeared.

I have still more recently treated a case of pneumonia of the upper portion of the right lung, in consultation with Mr. Beane of Peckham. A seton was inserted, and in six weeks a most decided amendment in the physical signs, the symptoms, and the general health occurred. Since that period, the patient has continued to improve, and now no dulness on percussion, or other sign of disease, is perceptible.

In a variety of cases of acute or chronic, local or limited internal inflammation, I have had recourse to the seton, and uniformly with the most marked success; so that, I think, we may look upon the remedy as almost specific in such cases. It is unnecessary to enumerate them. But hepatitis and nephritis belong to them in an especial manner, and I would suggest this remedy as likely to be of service, (if any remedy can,) in the case of albuminous urine. In one such case the urine was more albuminous after cupping. I imagined the effect arose from the mechanical violence inflicted, and recommended the cupping to be performed above and below the precise region of the kidneys. Under the use of this remedy, the albumen diminished, and even ceased for a time.

These and other cases, then, induce me to think, that there can be little doubt of the real efficacy of the seton in chronic inflammation. The object is to demonstrate this in some measure, and then to notice briefly, farther applications of the remedy. I do not pretend to suggest anything new, but rather to enforce what is old. The efficacy of setons, when appropriately applied in the nucha, (for they are frequently employed very uselessly,) is well known. The proper cases are inflammation and congestion. But the case to which I would particularly draw attention is that of disease of the spinal marrow, with paraplegia, or paraplegic spasm.

In this case, issues are generally inserted. They appear to me far more painful, far less manageable, and far less efficacious than ample setons. They have also, I am persuaded, been generally applied *below* the real seat of the disease. I was consulted a few weeks ago by a gentleman from Manchester. With partial loss of power, he had loss of sensation in the lower extremities; the numbness extended to a line just above the sacrum. Issues had been applied on each side of this line. They might, with equal efficacy, have been applied to the foot! I need not say that the spinal nerves proceed, for some distance, from above directly, rather than obliquely, downwards, and that the seat of the disease is *at* or ABOVE their junction (insertion or origin,) with the spinal marrow.

Bearing these two principles in mind, then, viz. that ample setons afford a more efficacious counter-irritation than issues, and that they ought to be applied higher along the spinal column than has been usual, I think we have a new mode of treatment for this formidable class of diseases.

These setons should, besides, be larger than usual. They should be three-fourths of an inch in breath, and extend through two inches in length, be inserted on the level with and above the supposed seat of the disease, (the anatomy being consulted,) and be four or six in number, two or three being instituted on each side of the spinal column. Acting on this principle, I had, five days ago, the pleasure to receive the most satisfactory account of a patient affected with paraplegia, whom I had seen at Lohan, in Essex, in consultation with Mr. Gross.

I repeat, and beg to conclude by repeating, that I believe counter-irritation applied along the spine has failed, because it has been applied below the seat of the disease; and that, to be efficacious, it must be both more efficient in itself, and applied with greater regard to the anatomy of the spinal marrow and nerves. The precise spot for their application must be left to the well-informed

practitioner. I need scarcely remind my reader, that the persistence, or cessation, of all reflex actions, will determine whether our remedies should be applied above or below the origin of the cauda equina, above or below the last dorsal vertebra.

We are great advocates for setons too. We confess we have not used them so broad nor so many at a time as our friend Dr. Hall. But perhaps he is right. The difficulty would be, in some cases, to induce patients to submit to their introduction.

We have tried setons in three or four cases of albuminous urine. They were bad cases certainly, and the effect was not encouraging.

MR. WILDE ON THE SCHOOL OF OPHTHALMIC SURGERY IN VIENNA.

Mr. Wilde gives an interesting sketch of this celebrated School in the last number of our Dublin contemporary.* We shall extract some passages from it.

State of Surgery in Austria.—It is remarkable, that while ophthalmology is, and has, for so many years been cultivated with such marked success in Austria, the general practice of surgery is in a state so low, that one of the grades of those licensed by its universities and lyceums to practise that branch of the healing art, is compelled by law to keep a barber's shop, whose interior may be learned by a glance at Teniers' graphic illustration of a Dutch surgery.

Barth the first Teacher of Ophthalmology in Austria.—Barth was born in the island of Malta, in 1745, and studied medicine at Rome, and afterwards at Vienna. When but eighteen years of age, he was appointed Professor of Anatomy to the University under Störk, the successor of Van Swieten. The anatomical school of the Austrian capital acquired considerable renown at that period, from possessing the valuable microscopic preparations of Ruysch, Lieberkûhn, and Albinus, purchased by Van Swieten for the University; they were committed to the keeping of Barth, and the opportunities they afforded him for studying minute anatomical structure were eagerly laid hold of, and tended in no little degree to his future advancement.†

This tradition is current in Vienna; a lady attached to the court of the empress becoming blind, was pronounced amaurotic by the medical advice called in; her malady continuing to increase, the Baron Wenzel was sent for, and at once declared it to be cataract; and operated on it with success. So amazed was Maria Theresia, at this display of Austrian surgery, that she forthwith established a special lectureship of ophthalmology, and Joseph Barth was the first that filled this chair, in 1773; and in 1776 he was appointed oculist to Joseph the Second. He was a most expert extractor, and there are still living several who have witnessed his operations—the invention and use of Beer's knife (that now so generally adopted) is in a great measure due to him: for although his was longer in the blade, and somewhat broader toward the handle, yet it was upon an enlarged scale the same. The objections to it, of its pricking the nose from the great length of its point, and its not cutting itself out (as it is termed) with

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* Dub. Journ. Nov. 1841.

† Several of these most beautiful preparations still remain in the University museum; those of Lieberkûhn in particular, now in the keeping of Professor Berris, are, notwithstanding all our modern improvements, some of the finest injections in existence; they are only equalled by those of our esteemed friend, Professor Hyrtl, of Prague.

facility, is now obviated in that introduced by his pupil Beer. His mode of operating was remarkable: he did not require an assistant, (and was perhaps the first who did so,) but placing the patient standing in the corner of the room near a window, he opened the lids, and fixed the eye with one hand, while he passed his knife through the cornea with the other, as is now so dexterously performed by Mr. Alexander; but different from that most distinguished oculist he stood *before* his patient.* It is needless to add that he was ambi-dextered. Barth wrote upon anatomy, and published sixty-one plates of the muscles, in Vienna, 1786. His operations are to be found in the works cited below. He also wrote a small treatise on cataract (*Abhandlung über die Ausziehung des grauen Staars,*) in 1797. It is strange that none of the writings of Barth are enumerated in Engelman's catalogue. He died in 1818, his portrait bespeaks him a man of noble and prepossessing appearance, and his *ad captandum*, but engaging manners and address, added to his acknowledged talents, procured him many admirers.

Santerelli, the Author of the Upper Section of the Cornea.—To Jacob Santerelli is undoubtedly due the first performance of extraction through the upper section of the cornea. Dr. Mackenzie says, that when he was a pupil at Vienna, in 1817, "it was usual to attribute the invention of the upper section to Santerelli, and to swear in *verbo magistri* that it was a bad operation." It has been frequently claimed by others, we believe unjustly. Dr. Mackenzie continues, "Santerelli was the first (Delle Cateratte, p. 79; Forli, 1811,) as far as I know, who actually made the section, not semilaterally as Wenzel had done, but at the upper edge of the cornea. This he did at Berlin in 1795." The method of Santerelli was to operate standing behind the patient, who was seated beneath him, similar to that of Mr. Alexander. He opened the cornea, by inserting a knife, shaped like a broad-shouldered lancet, into the anterior chamber, through its upper edge, acting in this manner like a wedge, and not giving the clean incision made by dividing it from side to side. Dr. Mackenzie doubts (and it appears to us with great justice,) whether he could in this way divide more than a quarter, or, at most, a third of the circle of the cornea; yet both Rosas and Jünken state that he fairly opened the upper half of the cornea. The latter of these authors adds, that he latterly abandoned this method, and made the under incision.

Jäger's Clinique.—Dr. Frederick Jäger, the son of a physician of Mergentheim, in Wurtenberg, was the favourite pupil, and afterwards the assistant of Beer. He resided in Vienna in the former capacity in 1808, and on taking his Doctor's degree at Landshut,† in the same year, he wrote an inaugural dissertation on "The Diagnosis of Arthritic and Syphilitic Inflammation of the Eye." From 1808 to 1812 he continued the assistant of the great Austrian oculist, who speaks thus of him in the little work already quoted, *Geschichte der Augenheilkunde;* "Since then, *i. e.* from 1808 to 1812,, "he was uninterruptedly my assistant, and so advantageously distinguished himself by his diligent application, that he not only (under my direction) undertook, in private, the extraction of a cataract, but also publicly, in the clinical school, operated successfully by means of the same operation on both eyes of John Haas, a man aged 55, on the 19th of June, 1812." In the same year, Jäger published his "*Dissertatio de Karatonyxidis Usu,* in which he records the results, and descants upon the merits of nineteen operations for cataract by keratonixis. On the death of J. A.

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* Ehrlich, Chirurg. Beobachtungen, Th. I, S. 34—und Saltz medic. Zeitung. Jahr, 1797. B. 2, S. 33. The first of these was published at Leipzig in 1795.

† The university of Landshut was transferred to Munich in 1826.

Schmidt, Dr. F. Jäger was appointed special Professor of Ophthalmology to the Josephinium Academy, a place he still continues to hold; and, as an operator has obtained nearly the same exalted reputation enjoyed by his master; and his private teaching is at present one of the greatest attractions in Vienna.

His clinique is on the same plan as that of the Grand Civil Hospital; it contains two wards, with eleven male and eleven female beds; the students are those educating for medical officers of the Austrian army; and the patients, soldiers and their families. Connected with this is a large *ambulatorium*, or dispensary, for out patients, or indeed all who choose to come; and around the Professor's chair will be found medical men of nearly every country in Europe, as well as America, attracted by the splendour of his operations, and attached to him by the unvariable kindness, and winning urbanity of his manner. The business is conducted on the general principle of the other German cliniques; it commences at eleven and ends at one o'clock. Between the wards is a spacious hall; into this the patient who is to be examined is conducted by a pupil, called *ordinarius*, in whose charge he is placed, who first gives the history of the case (in German,) and then proceeds with the subjective symptoms, and lastly, the description of the present appearances. He is then questioned on the case by the Professor, and concludes with the diagnosis, prognosis, and therapeia. The Professor then generally makes some observations on the peculiarity of each example of disease, as it presents itself in the persons so examined.

The second hour is usually occupied with operations. Of Jäger's modes of operating, and the principles of his treatment, we shall speak hereafter. On the whole, we may say, that the latter is very similar to that pursued in the London Ophthalmic Hospital. Finally, those patients not able to be removed from their beds, are visited.

Occasionally the Professor holds a public examination of all the pupils in his class, and his assistant gives a course of public lectures on the operative surgery of the eye, twice a week.

Ophthalmic Diseases in Vienna.—Cataract and amaurosis are diseases of very frequent occurrence in Vienna, as also arthritic affections of the eyes, particularly arthritic iritis, whereas the syphilitic form of that disease is very rare in comparison with other countries, but especially in Great Britain, only three cases of it having presented in the Josephinum Eye Clinique in the last year.*

During the warm season, severe ophthalmias predominate more than with us, and many of them run rapidly into the purulent, or even the Egyptian form, particularly among the soldiery. The hot winds laden with quantities of fine dust, very similar to that in Egypt and other parts of the Levant, which prevail during the summer months, and are so annoying upon the Glacis and in the Vorstadt of this great city, are, no doubt, a fruitful source of ophthalmia to the Viennese. Chronic keratitis, the *pannus* of continental writers, is also very common here, and has received of late years much attention from the German oculists.

Inoculation of Purulent Ophthalmia for Pannus.—The treatment of pannus, or chronic corneitis, by producing a new inflammation through inoculation with the matter of *ophthalmia neonatorum*, though almost unknown in these countries, has

* There are several hundred persons treated in the syphilitic wards of the great hospital of Vienna yearly, both male and female, with every variety of venereal disease *without* mercury; and so rarely and sparingly is this remedy employed in private practice, that it can be fairly said the Austrian treatment of this malady is *non-mercurial;* yet secondary affections, particularly those of the eye, are fewer than in other countries.

been employed for many years in Germany; and has lately attracted particular attention from its mention and recommendation in the work of Dr. J. F. Peringer, oculist to the hospital at Grätz, "*Die Blennorrhœ am Menschenauge;*" and in particular in the chapter "*Die Heilung des Pannus durch Einimpfung der Ophthalmoblennorrhœ.*"

Prior to the appearance of this very laborious work, so admirable in its symptomatology, our attention was directed to the subject by Professor Jäger, in whose clinique we had an opportunity of observing two cases so treated in November last.

The cases are related but do not appear to us to be particularly tempting. We rather think the practice would run counter to our habits in this country.

Clinique of Rosas.—As this clinique has been already described in the days of its venerable founder, a brief notice of it will here suffice. It consists of a well-arranged auditorium, where lectures are delivered and operations performed, and two wards, containing twenty beds, most admirably fitted up for the comfort of persons labouring under eye diseases. The annual reception of patients into this clinique is about 150, all interesting cases, chosen by the Professor's assistant, from the wards of the entire hospital, which contains 2,500 patients, and occupies the largest space of ground of any such institution in Europe. With this clinique is also united an ambulatorium, which affords relief to above one thousand persons yearly. The only difference in the routine of business here is, that the language spoken is Latin, and the *ordinarius* proceeds first with the objective, and then with the subjective symptoms; and immediately before each operation he reads aloud a Latin dissertation upon the case, its history, the objects of the operation, and probable result. On the whole, it is more methodical than that in the Josephinum, and perhaps this, added to the pains taken to instruct in the general treatment of patients, makes this establishment better adapted to the improvement of students, whereas that of Jäger is better suited to the already initiated, and the more advanced oculist. After the ordinary duties of the clinique in the theatre are ended, the Professor visits those unable to be removed from their ward, where most valuable information can be gleaned from his observations. Without drawing invidious distinctions between the relative merits of these two great men, it may, perhaps, be near the truth to say, that while the operations of Jäger are the most splendid exhibitions of eye surgery in Europe, the therapea (treatment) of Rosas is superior; and, as far as the history of his science goes, the latter is said to be the more learned of the two.

Plan of Study in Vienna.—The most advisable course to be pursued by those who visit Vienna solely for the sake of the eye practice, is to attend Rosas, from ten to half-past eleven; then a few minutes' walk will conduct one to the school of Jäger, where he should remain till half-past twelve or one. From one to two Jäger has a public *ordination*, as it is termed, at his own house, for the reception of patients from among the middling classes, to which he generally invites strangers, but to which his private pupils always have access. Much can be learned here of his private practice; and no one visiting Vienna but should, if possible, get access to it. We now arrive at the most attractive portion of the course, and by far the most valuable part of the education given in eye surgery —the private course of instruction in operating. This occupies the hour from two to three, daily, at the Professor's house, when eyes can be procured, and for this a stated sum is required. He takes but six pupils at a time, and these are almost invariably foreigners, either private individuals, or persons sent by their governments or their universities. This course lasts generally about three months. Of the advantages it offers, as well as Jäger's and Rosas' modes of operating, we purpose to devote another chapter. Enough is it for the present to say, that there is no such inducement held out to visit any other continental

school: and of its teacher we may justly say, in the words of a late writer on the subject, "*und was Allen bekannt ist, mag genügen, dass Niemand seinem Unterricht ohne Befriedigung genossen hat.*"

Private courses on operative ophthalmology are likewise given occasionally by Dr. Rosas, and by the assistants of both Professors.

That of Dr. Gubz, the assistant in the general hospital, should not be neglected, as he gives some most interesting information on the history of his art, illustrative of the splendid collection of instruments.

PERTH INFIRMARY.

DIFFICULTIES IN THE DIAGNOSIS OF TUMORS.*

Dr. Thomson, surgeon to the Infirmary, has communicated some cases illustrative of the difficulties of diagnosis of tumors, more especially of those of the abdomen.

CASE 1.—*Scirrhus of the Transverse Arch of the Colon simulating Fæcal Accumulation.*—David Whyte, aged 60, carpenter, admitted March 4, 1840. Has for some time complained of severe pain situated at the umbilicus, occurring in paroxysms, and said to be of a twitching kind. Bowels always costive, stools dark and lumpy, generally finds relief from purgatives. There is a distinct tumor felt in the abdomen a little above the umbilicus, in the situation of the transverse arch of the colon, crossing to the left side, where it disappears under the ribs. It is quite moveable, and can bear examination without much pain. It seems to be composed of several round bodies in a line. He first began to complain about four months ago, and ascribes his complaint to a cart passing over his abdomen about a year previous.

As he always felt relief after purgatives, these were frequently given at his own desire. Not long, however, after his admission, the stomach refused to retain either food or medicine, and injections, which from the first were frequently administered, were finally abandoned, from the impossibility of making them pass up the gut; an examination of the rectum threw no light on the subject. A few days before death constant vomiting took place,—he died a month after entering the hospital.

Inspection, 24 hours after death.—The transverse arch of the colon was the seat of a large scirrhous mass, about five inches long and one thick, divided by fibrous bands in distinct portions. The whole of the intestines partook of the same diseased condition. The diameter of the larger bowels was diminished to the size of the little finger, and the ileum, in some places, would do little more than admit a good-sized quill. The mesentery more resembled a cake of half an inch thick than anything else; the intestines, mesentery, and omentum, were firmly adherent to each other, and it required a careful dissection to separate them to see their diseased condition. The surface of the peritoneum was covered with little hard bodies, admirably described by Dr. Bright in Guy's Hospital Reports, (vol. v. p. 392, case 30,) as "circular patches of a whitish flesh colour, depressed towards their centre, and scarcely elevated at their circumferences, and marked with radiated vascularity protruding from their centre." These "circular patches," or "tubera," were also found under the pleura costalis.

CASE 2 was one in which a tumor, occupying the left side, and apparently

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* London and Edin. Monthly Jour. Med. Science, Dec. 1841.

emerging from under the ribs, was discovered. It was slightly moveable and not very painful to the touch, and had well-defined edges. On dissection i was found that the tumor was only a process of a large medullary mass, lying adherent to the inferior dorsal and superior lumbar vertebræ. It was rather more than six inches in diameter, and flat in form. When cut into, it was found divided into numerous cysts, having a soft centre, and a hard circumference.

CASE 3.—*Disease of the Kidney simulating Disease of the Spleen.*—Robert Small, aged 60, labourer, admitted February 18, 1841. Complains of pain and tenderness over the whole abdomen, but chiefly at the left side, where there is distinct hardness, with well-defined edges. The induration can be traced down to within two inches of the ilium, and forwards to the linea alba. It has the appearance of emerging from under the ribs. On placing the hand on the lumbar region, and pressing forwards, it is felt to move slightly. Left side a little protuberant and dull on percussion; no hardness on the right side, and sound on percussion natural. Both pressure and percussion over the region of the spleen caused pain, but more so over the region of the kidney. Bowels slow: tongue red and dry; pulse 72, pretty firm; urine frequently tested by heat and nitric acid, but not affected by either. It appeared to be natural, both in quantity and quality.

He first began to complain three months before admission, previous to which time he enjoyed good health. The hardness in his side was only observed by him three weeks before he entered the hospital.

There was little variety in the symptoms while he lived. Medicine had no power to relieve his distress. He died two months after admission.

Inspection 24 hours after death.—Body greatly emaciated; tumor more prominent than during life. The abdomen being opened, the left kidney was found to be greatly enlarged; when taken out it weighed seven pounds imperial. Its structure, when cut into, was medullary, and of a reddish-brown colour. There was not the slightest remains of the natural structure of the kidney; the liver was greatly enlarged, and pervaded by tumors of different sizes, having a medullary structure, and white in colour.

Case of supposed Sanguineous Extravasation simulating Hernia.—Thomas Taylor, aged 17, admitted February 20, 1841, affected with a tumor in the left side of the scrotum, of a pyriform shape. It is hard and painful, and can be traced up to the external ring. Four days before admission, while carrying a sack of grain, he felt something give way in the groin, and immediately after perceived the swelling in the scrotum. He applied to a surgeon, who, under the idea that it was a hernia, attempted to reduce it, but failed. He was then sent to the hospital in the state described.

The swelling had neither the elastic feel of an intestinal, nor the doughy one of an omental hernia. As the only inconvenience that the patient suffered was from the pain, the bowels being quite open, no attempts were made after the first to reduce the swelling. Leeches were applied, followed by fomentations. This treatment was several times repeated; the swelling began to subside, the pain had completely ceased, but the tumor was still as hard as ever. Mercurial ointment was now rubbed in, morning and evening, with the best effects: the whole gradually disappeared, and when he left the house, the only remains of the tumor was a small portion about the size of a pea, apparently attached to the cord about its middle. That this was not a hernia, is sufficiently apparent. What seems to be the probable nature of the case is, that a blood-vessel of the cord had burst, and filled the scrotum. The free handling of the parts had excited inflammation, ending in the indurated condition described.

Cases of this sort are always worth reading and recollecting.

CLINICAL REMARKS ON SOME CUTANEOUS AFFECTIONS. By W. DAVIDSON, M.D., Physician to the Glasgow Infirmary.*

1. *Ioduret of Sulphur for Porrigo.*

Six cases are related. Two will suffice for us.

Case 1.—Charles Biggar, aged 10, a vagrant, was admitted on the 1st February 1840. Scattered over the whole of the head were numerous thick greyish patches of scabs, which, when removed, left the surface underneath perfectly bare and shining, but, in a day or two, numerous small pustules made their appearance, accompanied with considerable itching. The eruption appeared in the form of small pustules four years ago. In this case, the scabs were first softened by the constant application of poultices for two days; the head was then shaved. An ointment, composed of five grains of the bichloride of mercury to one ounce of axunge, was tried from the 5th February to the 12th, without any improvement. The following was then employed:—

Iodur. sulphur. - - ℈ij.
Axungiæ - - - - ʒij. Misce.

This ointment was applied daily to the head; and in a few days a decided amendment was remarked.

On the 5th March, the following report was taken.—Pustules and scales are now completely gone, but there are some bald patches on head in the situation of eruption; no itching; surface of skin pretty natural; general health good.

He was dismissed in a few days afterwards.

Case 2.—Duncan M'Intyre, aged 10, a singer, admitted 30th December, 1840. The whole head, particularly the forehead, was covered with a thick dry greyish white crust, accompanied with itching, but without discharge. The disease was of four years' duration, and was represented to be of a very inveterate kind. General health good; bowels regular; tongue clean; pulse 80.

℞. Iodur. sulphur. - - ℈ij.
Axungiæ - - - - ʒj. Misce.

14*th January*, 1841, or a fortnight after the use of the ointment, the eruption is reported to be quite gone, and the skin covering the scalp natural in appearance.

As a precautionary measure, it was continued till the 22d, when he was dismissed.

Dr. Davidson observes:—

"Porrigo, in all its forms, is often a very unmanageable disease, and even when cured is very liable to return. In private practice, and in the hospital, I have tried almost all the external remedies recommended by authors, but have found none so efficacious as the ioduret of sulphur, having repeatedly succeeded in curing the patient permanently with it, after a long trial of other agents. At the same time, it must be remarked, that the evidence derived from the treatment of this disease in an hospital is liable to this objection, that the future history of the case is frequently lost sight of, and there are consequently no means of ascertaining whether or not the disease returns.

The 1st and 4th cases seem to be examples of porrigo scutulata, and both had all the appearances of considerable inveteracy; and I may here remark, that slight cases are rarely sent to this hospital. This species is generally considered the most difficult of cure, and even though the tendency to pustulation be removed,

* London and Edinburgh Journal of Medical Science, No. 12.

there is little dependence to be placed on this sign, until the skin becomes natural in colour, or the hair is beginning to grow.

The 2d, 3d, 5th, and 6th cases seem to be examples of porrigo favosa; the yellow pustules and incrustation, the fetid discharge, the matting of the hair, and the pediculi are all characteristic of this species. It is in general a more manageable disease than the p. scutulata, and is more under the power of the ordinary agents employed in its cure. At the same time, it not unfrequently proves somewhat intractable. In the treatment of porriginous affections, the following is a more particular account than what is given in the short history of the cases. The head is first well washed with soap and water, the hair is then cut as short as possible with scissors, a poultice is applied, and continued for a day or two if necessary, to soften the crusts, which being removed as thoroughly as possible, the hair is closely shaved. In general, the ointment is not applied until the head has been shaved, but if pediculi be present, it is employed from the commencement, in order speedily to extinguish these vermin. The proportion of ioduret of sulphur employed has varied from 20 to 40 grains to one ounce of axunge; but, in general, the latter quantity may be safely used from the beginning, unless there be some unusual inflammatory action present; for it seldom excites any particular pain or irritation. As a general rule, the daily application of the ointment will be sufficient, but, in some cases, it is advisable to use it twice a day, in order to facilitate the cure.

Alteratives, or any particular internal treatment, have rarely been resorted to, when the general health was tolerably good. Laxatives have occasionally been prescribed, and a mild farinaceous or milk diet."

We can speak from personal observation for the last two or three years, to the merits of the ioduret of sulphur ointment in the treatment of porrigo. We have found it, on the whole, more serviceable than any other application. In cases of porrigo decalvens we have seen it particularly useful. We employ it of greater strength than Dr. Davidson appears to do. One drachm of the ioduret to seven drachms of lard has been our customary formula, nor have we ever seen that over powerful.

2. *Ioduret of Sulphur for Lepra and Psoriasis.*

Case.—Margaret Phillips, aged 11, admitted 14th January, 1841. The extremities were covered with circular patches of small shining white scales, which, being detached, exposed a red and somewhat elevated surface. The eruption, which was confined to extremities, made its appearance in the form of small white scales, and had existed for three years. The patient stated, that it has disappeared three or four times, after various remedies had been discontinued. General health was pretty good, tongue clean, bowels regular. Cap. sol. arsenic. gtt. vj. bis in dies.

℞. Iodur. sulphur. gr. xx. Axungiæ, ʒj. Misce.
App. ung. part. affect. omni nocte.
Hab. baln. calid. secunda quaque nocte.

25th January. The strength of the ointment was increased to 40 grains to the ounce of axunge. She was completely cured by 3d February, but remained in the house for eight or ten days longer, expecting her friends from the country to take her home. On the 13th February, she was seized with severe conjunctivitis, accompanied with iritis of right eye, which was subdued in about a fortnight; but the lepra showed no symptoms of return at her dismissal.

Case.—John M'Lennan, aged 35, a labourer, was admitted 19th June, 1841. Scattered over trunk and extremities was an eruption, which appeared about eleven weeks ago, in the form of irregular slightly elevated red patches, on the surface of which a thin white scale rapidly formed. Eruption was at first accompanied with slight itching, and the scales being scratched off were rapidly re-

produced. Around the knee and ankle joints the patches were more continuous, and the scales considerably thicker than over other parts of body. When scales are removed, the subjacent surface is smooth, dry, and slightly inflamed. He was a patient in ward 10, for a similar affection, about two years ago, when he got well under the use of baths, ointments, &c. General health good.

Hab. baln. tepid. omni nocte.

℞. Iodur. sulphur. ℈ij. Axungiæ ʒj. Misce.

Abrad. cap. Hab. pil. 1. culoc. comp. om. noct.

The ointment was used every night after the bath, and, on the 23d June, the scales were completely removed over whole body, and the prominence of the red patches greatly diminished.

25th.—The amendment was progressing, but a few new papulæ, covered with very thin scales, had appeared on lower extremities, which extended to back and abdomen, accompanied with itching.

Cont. ung. et balneum. Hab. sol. arsen. gtt. x. ter in die.

July 8th.—Eruption almost gone, a few papulæ have appeared on abdomen, general health good.

July 12th.—Eruption quite gone, a few reddish stains on skin only remaining.

A case of Lepra Vulgaris is given. It is not remarkably satisfactory.

Dr. Davidson remarks:—

"The ioduret of sulphur does not seem to have so much power over lepra and psoriasis as over porrigo; although, in my experience, it has succeeded more frequently than any other agent that I have tried, with the exception of blistering by cantharides. Lepra alphoides, being a milder disease than lepra vulgaris, is more under its influence, as well as the milder forms of psoriasis, particularly in children: but the species named inveterata would prove somewhat intractable to this as well as to other remedies, as I had occasion to witness in a patient, who, although benefitted considerably, was not cured; he was unfortunately carried off by fever before the result was ascertained.

Three other patients affected with lepra and psoriasis have been treated in the Infirmary during last August; two of them have been completely cured, the other is still under treatment, but nearly well; all of them of several years' standing, and having employed a variety of medicines before admission. In one of the cases, a female, who had been using large doses of arsenical solution before her admission, which she was obliged to lay aside, the comparative effects of the ioduret of sulphur, and the acetum cantharidis were tested, the first upon the lower extremities, and the second on the arms. From the result of this and other trials, I am satisfied that the latter is the more powerful as a local agent in this disease. The acet. canth. however, was found too weak when prepared according to the formula in the Edinburgh Pharmacopœia; the proportion of cantharides was therefore doubled. It is proper, however, to state, that strong pyroligneous acid was alone used, without the addition of the acetic. Some other formulæ were tried for the purpose of producing ready vesication, such as an ethereal and an alcoholic solution of cantharides, which succeeded moderately well in some cases; but the speedy evaporation of the menstruum seemed to prevent their thorough action. The following preparation, which was applied with a small brush, answered the purpose pretty well, viz. one part of cantharides to three of a mixture of equal parts of castor oil and alcohol, especially when the flies were suspended in the oil, as suggested by Dr. Leslie, apothecary to the Royal Infirmary. The following liniment, however, which is a modification of the Emp. Canth. E. P., is superior to any preparation that I have tried. It is sufficiently soft during warm weather to be applied with a brush, but requires to be heated when the temperature of the air is low.

℞. Axung. Ol. Rapii, P. Cantharid. *ā* ʒj.

In order to succeed with either of these vesicating agents, the skin ought

to be previously softened either by means of the warm bath, or sponging with warm water."

3. *Blistering for Warty Excrescences on the Skin.*

Case.—Neil M'Kinnon, plasterer, aged thirty-five, admitted 14th December, 1840. Left lower extremity was twice as thick as right; cellular texture presented the appearance, and gave the sensation of being much hypertrophied, offered much resistance to the fingers when pressure was made, and only pitted slightly. The ham and the two upper and posterior thirds of leg were covered with deep rather fleshy warty excrescences, traversed by deep irregular longitudinal fissures: but in the popliteal space they were transverse. A patch of a similar nature, but dark-coloured, and resembling icthyosis, about the size of the hand, existed over the lower part of the leg at flexion of the ankle joint.

The colour of the patches was generally brownish red. Over anterior part of same leg there were numerous pretty large yellow scabs, and the skin covering the whole of inner and upper part of thigh, was of a dark livid colour, as was also a patch over inner part of the right thigh, which, at one period of the disease, was also encrusted with scabs. The patient ascribed the affection to a fall. It made its appearance in the form of warts on the lower and inner third of the leg about five years ago. He stated that he was cured in this Hospital about two years ago, but that the limb retained its blue appearance, which he says was always the precursor of the warty excrescences. His general health was good, pulse and bowels regular, tongue clean.

App. sol. arsenical. part. affect. quotidie.
Cap. pil. 1 colocynth. comp. omni nocte.

28th *Dec.*—Warty excrescences are in much the same state.

℞. Chlor. zinci ʒj. Aquæ ʒij. Solve.
App. sol. part. verrucos. Cap. Tk. Canth. gtt. xx. ter in dies.

The strength of the solution of chloride of zinc was gradually increased, until it amounted to three drachms of this salt to an ounce of water, on the 20th January, 1841, while he had been taking the arsenical solution internally from the 11th of the same month; but there was only a slight improvement, there being still an enormous thickness of warty structure. On the 22d January, a blister was ordered to a portion of the leg, which acted well, and produced a large detachment of warty substance. The blisters were repeated every two or three days until the whole affected surface had been more than once vesicated. Severe strangury was several times produced, even by the tela vesicatoria, which was employed on two or three occasions in this case.

On the 14th February he was dismissed, the right leg appearing to be quite free from warty excrescences, and there remaining on the left only a slight thickening of the skin near the ankle, where the disease resembled icthyosis.

CITY OF DUBLIN HOSPITAL.

NEW METHOD OF REDUCTION FOR DISLOCATION OF THE HIP.*

Two cases are reported.

Case 1.—J. M., aged 40, of slight make, and relaxed state of muscular system. The accident happened four hours before admission. The dislocation was on the dorsum of the ilium.

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* Dub. Med. Press, Sept. 1, 1841.

Considering the relaxed state of the muscular system, it was thought, that this might be a favourable case for trying the method of reduction proposed by M. Colombot. The patient was placed standing, and instructed to bend the trunk forwards, so as to support the thorax on a table, the opposite edge of which he grasped with his hands. Mr. Williams now standing on the outer side of the affected limb, bent the leg at a right angle with the thigh, grasping the dorsum of the foot with the right hand, while with the left hand placed at the upper and posterior part of the leg, he exerted a gentle and continued pressure, in which he was aided by the hand of an assistant, placed on his own and at the same time attempted to dislodge the head of the bone, by directing the thigh somewhat forwards and inwards. After a short time the head of the femur was found to have descended so considerably on the dorsum of the ilium, that it was estimated to be nearly on a level with the acetabulum. The thigh was now suddenly rotated outward, but it was found that the dislocation was not reduced.

This and a second similar attempt having failed, and as from the condition of the muscles, reduction in the ordinary way promised to be attended with little suffering to the patient, the lacs were applied, and extension being made to a very moderate amount, the dislocation was reduced with the utmost facility. Nothing subsequently occurred worthy of notice.

Case 2.—This was more successful. The patient, an athletic corn porter, dislocated the femur on the dorsum of the ilium five hours before admission.

Immediately, an attempt was made to reduce the dislocation, the lacs were applied in the usual way, and extension made by three powerful assistants, but it was found impossible to overcome the resistance of the muscles.

About seven hours after the accident, Mr. Williams saw the patient, and resolved to again try M. Colombot's method, which was done precisely as in the preceding case: the mode of extension already described, was persevered in for about three minutes, with the effect of causing a scarcely perceptible change in the situation of the head of the femur on the dorsum of the ilium; the limb was now rotated outwards, as in the preceding case, and the head of the femur re-entered the acetabulum, with the characteristic and in this instance extraordinarily loud report.

The patient experienced scarcely any pain except at the moment when the reduction was effected on rotating the limb outwards. Immediately after the operation the symmetry of the limb was perfectly restored. From the second to the fourth day the dislocated limb was, by measurement, fully three-fourths of an inch longer than the opposite one, but this elongation disappeared by the 6th day, and on the 18th August, the patient, as regarded the accident, was prepared to leave the hospital, but remained to have a small encysted tumor removed from the back of his leg.

The plan is evidently worth a trial.

Spirit of the British and American Periodicals, &c.

DELIRIUM CONNECTED WITH CERTAIN STATES OF THE HEART IN FEVER.
By Dr. HUDSON, of Navan.

DR. HUDSON, the author of a valuable dissertation on fever in this Journal, has lately published some observations in our Dublin contemporary on the subject at the head of this paper. In 1840 a putrid or spotted fever prevailed in Navan and neighbourhood, and was very fatal. Generally the symptoms of debility were so prominent that wine and opium were necessary; but in several instances the low muttering delirium changed into that of a furious character, and ultimately into coma, on the exhibition of a small dose of opium. This led our author to make some inquiries into the conditions under which these phenomena occurred. An observation of Dr. Stokes led the way in this inquiry. "*In the diminished impulse, and in the feebleness or extinction of the first sound, we have a new, direct, and important indication for the use of wine in typhus fever.*" Dr. H. says that every day's experience increases his confidence in the value of this mode of diagnosis—and he thinks that wine should never be given in the absence of the above symptom. But the rule for the exhibition of opium has not been laid down so accurately by authors.

"Numerous observations have led me to conclude that opium agrees with that state of the cerebral circulation with which wine agrees, and *vice versâ*, and that the indications derived from the signs of the heart are the same, and of equal value with reference to both. I have already stated that in several instances bad effects seemed to follow the exhibition of opium and tartar-emetic. A little observation showed that the same conditions were present which caused wine to disagree, and conversely, that those in which opium produced the best effects were precisely the same as those in which wine, freely administered, did good. In one of these cases the patient took, before sleep could be procured, a drachm and a half of the acetum opii, with six grains of tartar-emetic, in divided doses, and with the best effect, while in another, a single dose of six drops of the same preparation, combined, also, with the antimony, was followed by loss of speech and power of deglutition, tetanic rigidity of the muscles, coma, and death in rapid succession. Here were two opposite conditions of the system in the same disease. The states of the cerebral circulation, in particular, must have been different; but by what external character were these to be recognized? Those which appeared upon the external examination of the patients, in the several instances of each class, were—in the first, signs of a feeble heart, viz. the loss of impulse and diminution or absence of its first sound; in the second, strong impulse, and distinct and loud sounds.

A corresponding difference of the appearances on dissection was found. In those who during life had manifested the signs of a feeble heart, this organ was softened, and the morbid appearances of the brain were those of venous congestion; in the others, the heart was firm and contracted, and the arteries of the brain were injected. A little consideration will show that the conclusion to which these observations would lead as to the connexion between the opposite state of the heart and corresponding states of the cerebral circulation, is consistent with the pathology of the latter affections, and might, to a certain extent, be anticipated by reasoning; for, admitting the truth of the proposition that 'the pathology of the brain is, in many instances, intimately connected with

and dependent upon the pathology of the heart,'* we would (reasoning *a priori*) infer that cerebral excitement, attended with increased strength and activity of the central organ of the circulation, should be found to depend upon a sthenic or arterial congestion, while a feeble state of the propelling power would lead to more or less stagnation in the venous current, and congestion in those vessels with, what always co-exists with such congestions, *a diminished supply of arterial blood*—this last condition being, in all probability, the true cause of the physiological effects of venous congestion of the brain.

We would thus suppose the existence of two opposite pathological states of the brain, requiring opposite treatment, and yet possessing external character and symptoms having so close a resemblance as to require frequently more than ordinary powers of discrimination to distinguish between them.

Such a supposition is consistent with the analogy of other affections, especially of 'delirium tremens.' Of this disease every practitioner recognizes at least two varieties, one of which is controlled by opium, with the precision and certainty of a specific; while another case, differing so little in its external characters as to be frequently confounded with it, is exasperated and rendered fatal by this medicine. One requires stimulants, the other bleeding and purging. Dissection reveals passive venous congestion in one case, and determination of blood to the brain or membranes in the other."

Dr. Hudson adduces several cases in illustration, to which we must refer our readers. The stethoscopic indications abovementioned are deserving of especial attention by the practitioner.

MEMOIR OF A GENTLEMAN BORN BLIND AND SUCCESSFULLY OPERATED ON IN THE 18TH YEAR OF HIS AGE. By Dr. FRANZ.

At the birth of this young gentleman (the son of a physician) the eyes were found to present a two-fold defect of organization. Both eyes were turned inwards to a great extent—and cataract existed in both. Towards the end of the second year, keratonyxis was performed on the *right* eye, which was followed by iritis, and wasting of the eye-ball. Within the next four years, two similar operations were performed on the *left* eye, without any success, but with no destruction of the eye. The colour of the opacity, at length, became of a clearer white, and some faint perception of a strong light was experienced by the boy.

Into the long and minute description of the state of this gentleman's eyes in his 18th year, (1840) we cannot go. It appeared that the *right* eye was completely amaurotic, and the *left*, which had become atrophied, was the only one considered fit for an operation. The following were the steps taken:

"On the 10th of July, 1840, in the presence of Dr. Swaine, and with the kind assistance of Messrs. F. Fowke and F. Steinhäuser, I made an incision in the cornea upwards, and introducing a pair of fine curved forceps, armed with teeth, into the posterior chamber, I seized the anterior wall of the capsule, by passing one of the blades of the forceps into its small aperture, and attempted by pulling it slowly to separate it from its adhesion with the uvea and its peripheral connexion, in which I succeeded without producing a prolapsus of the vitreous body, or tearing the capsule, which I now removed. After this proceeding, a large piece of the lens of an opaque colour, probably the nucleus, presented itself in the pupil, which was easily removed from the eye by means of Daviel's spoon; the pupillary aperture then appeared perfectly clear and black. The

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* Dr. Law on Disease of the Brain dependent on Disease of the Heart, Dublin Medical Journal, No. 50.

patient was now turned with his back to the light, for the purpose of trying a few experiments as to his sight, but from these I was obliged to desist on account of the pain which the light produced in the organ. Both eyes were then closed with narrow strips of court-plaster, and the patient carried to bed. Venesection, local bleeding, fomentations with iced water, continued without intermission for about forty-eight hours, together with the scrupulous observance of the most severe regimen, barely succeeded in keeping down the inflammation, the effects of which in this case, where but one eye offered hope, were much to be dreaded, if it should surpass that degree which was necessary for the healing of the wound in the cornea. This process went on and terminated so favourably, that the cicatrix, situated close to the sclerotica, is now scarcely visible. The patient suffered from muscæ volitantes and from a considerable intolerance of light, pain being produced by even a mild degree of light falling on the closed lids. The muscæ volitantes were greatly mitigated, and the intolerance of light ceased, after the lapse of a few weeks, by the use of proper pharmaceutical remedies, by local bleeding, change of air, &c., and the employment of the ophthalmic fountain of Professor Jungken, which I have fully described in the Medical Gazette, vol. xxvii. p. 444. To promote the development of the power of vision, the use of the fountain was continued twice daily, with Pyrmont-water and latterly with simple spring-water, for the space of three months, when it was discontinued, as it began to irritate the eye."

On opening the eye on the third day, he perceived a blaze of light, and all objects confused and in motion. He could not distinguish any object. The pain forced him quickly to close the eye. Gradual exposure of the eye to light habituated the organ to its stimulus; and when vision became tolerably distinct, all objects appeared so near to him that he was afraid of coming in contact with them, so that he was constantly correcting the sense of sight by that of touch.

On the 21st September, 1840, Dr. F. operated on both eyes for the congenital strabismus. This operation was so successful, that the gentleman's personal appearance was much improved. In November he was able to read the names over the shop-windows, and to tell the time, to a minute, by St. Paul's clock. The tide of human existence, however, in the streets, so confused and confounded him, that at last he could see nothing. By the Spring of 1841, the sight was much improved—and improving. The case, altogether, is very creditable to Dr. Franz, as well as interesting to the profession and the public. The paper is published in the Philosophical Transactions for 1841, Part I.

A NEW PROCESS FOR PURIFYING THE WATERS SUPPLIED TO THE METROPOLIS, &c. By THOMAS CLARK, Professor of Chemistry in Aberdeen.

This is a patent process, the secret of which " will be set forth in the specification." So was the secret of Dr. James, but nobody could ever make the fever powder by that specification. We learn, however, that the Thames water is to be purified by means of quick lime. The state of purity to be attained by the new process, is that which would be effected by "*heating the water till it boiled, and kept at the boiling point for two hours.*". Thus then the muddy and turbid *infusion* of dead dogs, cats, rats, garbage of hospitals and shambles, washings of water-closets, drainings from common-sewers, and all utterable and unutterable abominations, is to be brought to the state of a homogeneous *decoction*, by two hours' boiling, and this hell-broth is to be offered to the inhabitants of the metropolis as a PURIFIED WATER!!

The great object and anxiety of the patentee seem to be the precipitation of the chalk from the Thames and River water. Thus, an experiment is stated, in which it is reckoned that two pounds of chalk are partly dissolved and partly

suspended in 540 gallons of metropolitan water, and that when the patent process is applied, "*both pounds of chalk will be found at the bottom after subsidence. The 540 gallons of water will remain above, clear and colourless, without holding in solution any sensible quantity either of caustic lime or bicarbonate of lime.*"

So, then, we are to swill and swallow *contentedly* the essences of every kind and species of filth that the most fertile imagination can conceive, in gratitude for having got rid of a few grains, daily, of chalk!!!

We shall here take leave of our ingenious patentee, by making him a proposal, which, we sincerely hope, he will accept. Let him leave us the CHALK in the Thames water, and take all the other ingredients—FILTH, SOIL, and SORDES, to himself—as remuneration for the trouble of his chemical purification.

PHYSIOLOGY OF THE VOICE.

"Exceptio probat regulam."

Mons. Reynard has published a case in the Gazette Medicale, where a galley-slave attempted suicide by cutting his throat by transfixing the larynx, from side to side. There was considerable hæmorrhage. The œsophagus was wounded, but not severed. Sustenance was conveyed into the stomach by means of a tube. The subsequent inflammation closed up the air-passage above the wound. He breathed entirely by the laryngeal opening, when a tube was established. M. Reynard made experiments to ascertain whether any air could be expelled or inhaled through the glottis, and concluded that the natural passage was completely closed. Yet speech remained tolerably distinct.

We doubt the fact, and suspect a fallacy. Mr. Price, a jeweller at Portsmouth, was operated on by the late Dr. Denmark, and Dr. Johnson, in a case of laryngitis, when the patient was in articulo-mortis. The trachea was opened, and Mr. Price breathed through the tube from that day to this (for we believe he is still alive) some 25 or 26 years. Now here, although the passage was not entirely closed, for a very small stream of air could be forced through the glottis, yet the power of articulation was lost. With this fact before our eyes, we cannot assent to the correctness of M. Reynard's statement. Were we to believe that a man could speak without the organ of voice, or hear without the organ of audition, we ought, in common justice, to believe that Miss Okey saw through her navel, and that the doctor's "bottle-imp" could foretell the issue of a malady, without seeing the patient, or having the slightest acquaintance with the anatomy, physiology, or pathology of diseases!

PARTIAL HYPERTROPHY OF THE HEART. By Dr. JOHNSON.

By the term which I have used, I mean a diminished size of the heart, as a whole, while certain portions of it are in a state of hypertrophy. It corresponds with the concentric hypertrophy of authors.

The Hon. Mr. R——, about 40 years of age, came under my observation some five or six weeks before his death. He was greatly emaciated—sallow in his complexion—and with extremely feeble circulation. The pulse was like a thread, at the wrist, and the action of the heart was scarcely audible. The appetite was nearly wanting, and as food produced distressing feelings, he had long adopted a very rigid and abstemious diet, which probably tended to increase the emaciation. I examined him with the greatest care from head to foot, without being able to detect any lesion that could account for the progressive waste of flesh.

The patient (if he could be called such) went direct to Leamington, and never took anything which I prescribed. He placed himself under Dr. Jephson, who gave favourable hopes to his family of ultimate recovery. A month's treatment, however, produced no amendment, and Mr. R. returned, with great difficulty, and in the most exhausted state to London, when he came again under my care. The emaciation was now at its utmost extreme, and as he could take very little nourishment by the mouth, he was supported by strong beef-tea thrown up into the colon every eight hours. The pulse was now scarcely perceptible at the wrist, and the action of the heart inaudible in any part of the chest. He had no cough—clean tongue—intellects unclouded—and, after lingering about a week, he ceased to exist—pale and pulseless, like a person expiring of cholera.

On dissection (by my son) 24 hours after death, all the organs and structures in the body, with one exception, were sound. On opening the chest, the lungs, on both sides, completely collapsed, leaving in view a heart of the most extraordinarily small dimensions. The pericardium was intimately glued to the heart, so as to be incapable of separation, so ancient and complete had been the adhesion. The heart itself was not more than half its natural size; yet its parietes (ventricular) were full an inch in thickness. This dimunition of general size, with hypertrophy of the walls, had so encroached upon the cavities, that the left chamber could not contain more than three tea-spoonfuls of blood! The consequence was, that at each ventricular contraction about one-fourth of the normal or natural quantity of blood was discharged from the heart into both aortic and pulmonary system. The general emaciation of the whole body thus so very imperfectly supplied with the vital fluid, is readily accounted for. In respect to diagnosis during life, I conceive that in a case of this kind, and to this extent, it would require more diagnostic means than we yet possess to detect the true nature of the organic lesion.

CARLISLE.

PERIODICAL *versus* PERMANENT DUTY IN THE MEDICAL CHARITIES OF CARLISLE.

A sharp discussion and correspondence have lately taken place between the medical gentlemen of Carlisle and the Governors of the Dispensary and of the Fever Hospital of that place.

The great majority of the medical practitioners of that city proffered their *gratuitous* services to the above institutions, coupled with the proposal that *all* the said practitioners, who volunteered their services, should have periods of duty, *in rotation*, assigned them, instead of that duty being *permanently* allotted to certain individuals elected for that purpose. To this proposal the GOVERNORS demurred: but, whatever reasons or arguments they may have employed among themselves, there is nothing like either reason or argument broached in the official correspondence.

The principle of rotation might not, indeed, prove applicable to, or practicable in, the metropolis, or in very large provincial cities, where the number of medical practitioners happen to be out of all proportion to the number or extent of the charitable institutions: but in such a place as Carlisle, containing, perhaps, not more than 20,000 inhabitants, the plan is perfectly feasible, and would, we conceive, prove eminently beneficial to the sick, to the public, and to the profession. There could not be the slightest reason to apprehend that unqualified individuals would volunteer their services in a public institution, where exposure would as certainly follow error or ignorance, as the shadow follows the substance. By this plan, knowledge would be more equally diffused among the medical

practitioners of the place, and surely this diffusion would extend its beneficial influence to the lay inhabitants themselves, when on the bed of sickness. The only plausible objection to this *rotation duty* might lie in the idea that the same patient might, in the course of treatment, come under two or more medical practitioners. This objection is perfectly futile. It is every day refuted by patients in private life, who naturally and properly change their medical attendants when they think they are not deriving so much benefit as they expected from remedial agency. And why should the poor be deprived of an advantage, real or imaginary, which the rich prize so dearly? The fact is, that such changes in public hospitals and infirmaries would very often be productive of the best effects to the suffering inmates. We can only make room here for the following conclusion of an admirable address from the Medical Practitioners of Carlisle to their High Mightinesses, the Governors of the Infirmary.

"By accepting, then, the services of all the resident Medical practitioners who may be willing to devote a portion of their time and labour to the duties of the Hospital, the Governors would give to each a permanent and an active interest in its prosperity. By thus creating among them, at the same time, an earnest spirit of emulation, and a desire on the part of every man to discharge his duty in the manner most conducive to his own credit, they would certainly obtain the best pledge for his watchful attention to the interests of the sick. The perfect freedom of intercourse among the Medical officers of the Hospital would necessarily foster a more extended desire for scientific inquiry and observation. Their common stock of practical information would be consequently increased; and under circumstances where no unseemly or disparaging jealousies would be likely to interrupt the general co-operation in a design of so much importance, a higher tone of professional feeling would as certainly be produced. Situated as the Infirmary is, at no inconsiderable distance from the town, the continual necessity for daily attendance during every season of the year, would unquestionably become irksome to the medical men, were the appointments limited to a few; but this inconvenience would be completely obviated by the division of a larger number into successive sections. The recurrence of the periods of active service would be looked forward to by each with an interest perpetually fresh. Every remarkable circumstance would be open to the observation of all; and in cases of peculiar doubt, danger, or emergency, the resource of a general consultation would at all times be promptly available.

Even were there no *superior* advantages presented by the arrangements which we propose, we conceive that a wish on the part of those who in either case would be appointed, to be associated with their professional neighbours, and to share with them in the labours and the advantages of the institution, ought to be regarded by the Governors as a proof of the earnest sincerity with which they would endeavour to carry out its design, and an ample guarantee against those selfish and sordid motives which have been too often known to interfere with the fulfilment of a similar purpose.

Believing that we have now fully and fairly stated everything requisite for the explanation of our views upon this subject, we conclude by reiterating our strong sense of the preference due to the system we have suggested; at the same time that we make known our rooted aversion to that which would engender and perpetuate distinctions derogatory to the general character of the resident members of our profession, whilst it would in no manner yield any countervailing advantage to the institution, by respectfully announcing our unanimous resolution to decline the acceptation of a service upon terms of which we so highly disapprove.

(Signed)

WILLIAM JACKSON, M.D.
THOMAS ELLIOT, Surgeon.
RICHARD JAMES, M.D.
JAMES MARRS, Surgeon.
R. ATKINSON, M.D.
EDWARD BOWMAN, Surgeon.

R. OLIVER, Licentiate Royal College of Physicians, London.
PETER LINTON, Surgeon.
WILLIAM ELLIOT, M.D.
FRANCIS W. KERR, Surgeon.
JOHN MORTIMER, Surgeon.
JOSEPH CARTMELL, M.D.
JOHN HODGSON, Surgeon.
WILLIAM DALTON, M.D.
WM. NICHOLSON, Surgeon.

WM. JACKSON, Chairman.
R. JAMES, Secretary."

It is hardly necessary to state that the voluntary and gratuitous services of the above highly respectable practitioners were declined, and we believe a *stipendiary* surgeon has been engaged to perform duties in an institution supported by subscriptions, and which might have enlisted in its favour the whole influence and abilities of the medical corps of the city, without expense!

INSTITUTION FOR THE TREATMENT OF CURVATURES OF THE SPINE, &c.

Few in the Profession, or out of it, are aware of the existence, in this country, of an Institution for the Treatment of Spinal Diseases, so perfect as to rival the best establishments in France. Such an Institution there is in the immediate neighbourhood of London, and it comprises every requisite, mechanical and general, for the efficient management of those complaints. The place to which we allude is Vanburgh Castle, contiguous to Blackheath. This spacious mansion, built by Sir John Vanburgh, has been taken by Dr. Potts, and within its walls, as well as on its lawns and pleasure grounds, contrivances of the most ingenious and appropriate description have been laid out for the use of spinal patients. Planes for reclining, reading, working, playing at the piano—apparatuses for exercising the various muscles—in the recumbent or any other posture—swings and all kinds of calisthenic instruments—baths of every sort—may be found there. Besides the corporeal, there is mental discipline, the establishment being educational as well as remedial. Mrs. Potts and her daughters superintend the former, assisted by the best masters in all the branches of knowledge aud accomplishments cultivated by females. A lady from Dresden, who teaches the German language, is resident in the house.

It is impossible to do justice to the scientific acuteness and mechanical talent displayed by Dr. Potts in his arrangements. Every apparatus is made on the premises, where there is a turning lathe, a forge, &c., superintended by himself. He is a first-rate mechanic, and not only directs but can execute.

We know of no pleasanter excursion for a medical man than that of Vanburgh Castle. The admirable character of the arrangements, the absence of charlatanery, which so often pervades these kinds of establishments, the beauty of the spot, and the frank hospitality of the host, are attractions that it is impossible not to feel.

The Institution deserves the warmest encouragement on the part of the profession, and the liberal patronage of the public; never before were there such means in this country for remedying spinal disorders. To be known is all that is necessary for its reputation and success.

PHRENOLOGY.

(To the Editor of the Medico-Chirurgical Review.)

Newtownards, November, 1841.

SIR,—If you think the following remarks, confirmatory of some of the doctrines

of phrenology, worthy of publication, I will feel honoured by your giving them a place in your valuable Journal.

I am, your obedient servant,
D. JAMESON, M.D.

DEFICIENCY IN SIZE AND DISEASE OF THE CEREBELLUM, THE CAUSES OF ANAPHRODISIA.

Since I became acquainted with the science of phrenology, some years ago, my attention has been directed to the condition of the cerebellum in those individuals who have consulted me for impotence, and in others. I have attentively observed and studied a great number of cases, and am led to regard the following conclusions as correct. I hope their publication may have the effect of directing medical practitioners more closely to observe the undoubted connexion which exists between the state of the genital organs and the cerebellum, and a disease which in its various degrees is much more prevalent than is commonly imagined, and is the cause of a great many evils.

1 The sexual passion has its seat in the cerebellum, and is energetic or the reverse in proportion to the size and tone of this organ.

2. Smallness of the cerebellum, much inequality of its lobes, and deficiency of its tone, are the causes of impotence.

3. When the cerebellum is very small, impotence is permanent.

4. When the cerebellum is small, it soon suffers in tone if made to perform its functions with ordinary frequency.

5. When one lobe of the cerebellum is small and the other large in a man, it is sometimes the case, that he, at intervals distant in proportion to the size of the large lobe, performs the generative act imperfectly, until the large lobe, which had been exhausted, recovers its tone.

6. When the cerebellum is very large, and is much exerted, as it usually is in such cases, it becomes impaired in tone, and impotence is sometimes the result; but the generative act may be well performed by a large cerebellum, even when impaired in tone.

7. Average endowment of the cerebellum is most favourable to permanent potency.

8. When the cerebellum becomes much deficient in tone, if it be not soon cured, the spinal marrow and its nerves, the organic nervous system, the intellect, and moral feelings are successively debilitated.

9. Deficiency of tone of the cerebellum in the male or female is often transmitted to the offspring.

10. Impaired tone of the cerebellum is the cause of spermaterrhea.

11. The size of the genital organs exercises no influence on their activity or vigour; they are often inert when large, and vigorous when small.

12. The father of a monstrocity, an account of the post-mortem examination of which I published sometime ago, had the cerebellum small and debilitated, and had also spermatorrhea; he was permanently weak in the genital organs, and was the means of making me acquainted with many similar cases, and their peculiar symptoms. His wife became jealous and went mad in consequence of believing that he was unfaithful, and that what was the result of debility, was caused by dislike of her. She died in a lunatic asylum. These facts, in connexion with remark No. 8, render it probable, in my opinion, that the subjects of abnormal organization are the products of parents whose generative apparatus was diseased, and general health consequently much impaired. I think the condition of the cerebellum in the parents of monstrosities should be observed.

13. Permanent or frequent impotence, or even continued partial debility of genital organs, in men who have large self-esteem and destructiveness, and

benevolence and conscientiousness not very large, often produces strongly selfishness and malignity; and also cunning and falsity; for though secretiveness should not be large, it is so much exercised in these cases to conceal the symptoms of their disease and preserve the reputation of virility, that it operates as if it predominated in size. This is in accordance with the remark of Dr. Cox, "that it seems to be a law of the human constitution that when any of the faculties is pained or disagreeably active" destructiveness instantly comes into play. Here amativeness is mortified, and self-esteem and love of approbation disagreeably active, and destructiveness becomes consequently excited, secretiveness being active also, malevolence, cunning and falsehood result.

14. Over exertion or exhaustion of the cerebellum robs adhesiveness and combativeness of their power and thus causes cowardice.

15. Whatever exhausts the power of the constitution, seems not only to diminish the power of combativeness, but also to stimulate cautiousness.

16. In some men an activity and power of the cerebellum greater than what we would expect from their temperaments and developments may exist for a long time without producing impotence; here it seems to appropriate more than its own share of the nervous energy of the system; the other organs of the body suffering a diminution of power apparently that the generative apparatus may obtain an increase.

17. The cerebellum is in general too much exercised in the married state.

18. When the cerebellum is too much exercised, no matter what the size of it may be, it becomes impaired in tone.

19. Men and women who have the cerebellum much below the average size should not marry.

20. Impotence is curable in all cases but where the cerebellum is very small or disorganized.

21. Fluor albus is caused by deficient tone of the cerebellum in many cases.

22. Deficient size and tone of the cerebellum in males or females is a cause of want of liveliness, and sometimes of melancholy and madness.

23. Disease of the cerebellum is often the real cause of absurd eccentricities.

24. The treatment of impotence should always be directed with a view to its origin in the cerebellum.

NITRATE OF SILVER IN GONORRHŒA.

Mr. Carmichael, of Dublin, has strenuously repudiated the practice attributed to him by Mr. Acton, of using injections of nitrate of silver, so strong as ten or twelve grains to the ounce of water. In Mr. C's published work on the venereal disease, he stigmatizes the above mode of treatment, as "*a practice that cannot be too strongly deprecated.*" In a more recent publication—a lecture—he states that he has used the injection, but never in a greater degree of strength than one grain to the ounce—more frequently a quarter or half a grain to that quantity.

SUICIDE AND CROSS-WAY BURIALS.

It appears that a little while ago there was a sort of suicidal epidemic in the city. Night after night persons threw or tried to throw themselves into the Thames. Sir Peter Laurie determined to punish those who failed in their attempts at drowning. They were imprisoned, sent to take their trial and so forth, and the epidemic subsided.

On this text our contemporary, the Medical Gazette, enlarges and though we

think there is much good sense, we also think there is much that is questionable in his remarks. The gist of them is contained in the following passage.

"Need we point out how these cases afford another proof, though of a very different kind from those commonly adduced, of the propriety of treating those who are, or who seem to be, insane, in the same manner as if they were thoroughly rational? It is quite plain that for all these cases, the best method of preventing suicide is, to treat it as a punishable offence, that is, as the evil deed of a responsible man; to make no difference, *primâ facie*, between suicide and homicide. They show, also, the power which is in the hands of coroners' juries to put a check upon this fearful practice by bringing in, in every case where the contrary is not clearly indicated, such a verdict as may lead to the body of the resposible self-destroyer being deprived of that respectful treatment which seems to all men an object of anxious desire. No sympathy can be more unsound than that which dictates men to believe a suicide *ipso facto* insane; nor can any be attended with worse effects. Make all suicides objects of pity, of sympathy, and of respect, and they will not be rare: but put them on the level with homicides, let the bodies of all be disgraced in whose cases there are not plainly circumstances that proved them to be irresponsible to themselves (and, for their last deed to their Maker), and then will the number of these criminals diminish yearly. In a word, let juries act towards the dead in the same spirit as the magistrates have acted to the living, and they will soon very materially diminish their own and the coroners' labours."

We think that the danger of acting literally on our contemporary's advice in the treatment of mania must be obvious. A man who is confessedly deprived of reason is to be amenable to punishment; like him whose reason is intact. It would be equally difficult to show the justice and humanity of this proposal. Punishment implies crime—crime the power on the part of the criminal to distinguish between right and wrong—and the loss of reason abrogates that power. A great proportion of our punishable offences are not stamped as such by any natural laws, but defined by highly cultivated reason, or by the revealed will of the Almighty. To punish the irrational for sinning against what it required reason to create, and implies reason to observe, is harsh and unjust indeed. We grant the occasional difficulty that exists, in determining the requisite quantum of insanity, but that is a question of detail, and excluded from the broad principle laid down by our contemporary.

No doubt there are certain cases, like the fashion for drowning in the City, where law may thrust its arm between the act and the actor. But these are samples of a pseudo sort of mania, and admit of a special treatment.

Nor can we quite agree with our contemporary in his advice to coroners' juries. The stake and the cross-way burial would be revived were his suggestions to be acted on. But we would remind him that this is no new methed—*it has been tried and failed.* The intelligence of the age put it down. It proved, we apprehend, in practice unavailing in deterring from the guilt, powerful only in injuring the innocent. The feelings of survivors are lacerated sufficiently by the dreadful act itself, without any posthumous addition. Are the unhappy widow and the helpless children of the suicide to be tortured by the reflection that as the husband and the father's death was dreadful, his corpse is spurned as infamous? Experience has proved the inutility, our feelings proclaim the injustice of this. Would all the horrors of the old suicidal code of England have prevented Romilly from committing self-destruction, or would enlightened Europe have tolerated their infliction upon his remains? We fancy not. Then if insanity is to save from the coroner's vengeance the bodies of the rich, are only the poor to be consigned to it? Is Castlereagh to repose beneath his gorgeous pall, and some wretched victim of seduction to be staked? These are some of the difficulties that they would have to grapple with, who should venture to resuscitate the penal treatment of suicide.

SURGEONS ENTITLED TO PAYMENT FOR MEDICAL ATTENDANCE.

The following case, recently decided in the Court of Common Pleas, under the direction of Chief Justice Tindal, is important.

Mr. Baxter, a surgeon of some eminence, brought an action against Gray and another, as executors of a Mrs. Bostock, to recover the sum of £569. 2s. for a long attendance on that lady, who died at the age of 90. The plaintiff, Mr. Baxter, practised as a surgeon: he did not, however, compound or send in medicines, but merely prescribed as a physician. He had attended Mrs. Bostock constantly from the year 1829 to 1835. It appeared from the evidence that Mr. Baxter calculated on a *post-mortem* remuneration in the shape of annuity or legacy, and did not receive an immediate *honorarium* for each visit. Mrs. Bostock died, but the expected legacy was a "castle in the air;" an action was, therefore, brought to recover for attendance. The defence set up was, that the plaintiff had been paid for his attendance, but only £33. were proved to have been paid.

The facts which we have just stated having been established, Lord Chief Justice Tindal told the jury that there were only two questions for their consideration; first, the amount to which the plaintiff was entitled for attendance; and secondly, whether the whole or any part of that amount had been paid. The evidence was very loose on the part of the plaintiff, to show the precise number of attendances which had been given, but there could be no doubt that *the attendance was considerable*, and that the plaintiff was *entitled to something handsome for it.*

The jury returned a verdict for the plaintiff—damages £217.

Our contemporary, the Provincial Medical Journal, observes very justly, that if a surgeon can recover for medical attendance, a physician ought to do so too. This certainly is reason if it should not prove to be law.

HOMŒOPATHY EXPOSED.

The papers have been circulating the following paragraph:

"The Duke of Canizarro died from taking three pills at once, ordered to be taken singly, either through his own mistake, or through that of his *homœopathic* physician, and that these pills contained *arsenic.* Thus we see a nobleman, in the enjoyment of a large fortune, dying, *poisoned like a rat.* Considering these pills were prescribed in conformity to *homœopathic* practice, in which only *millioneth* doses are supposed to be used, so that a few hundred thousand portions might be taken without producing death, one can but look upon this result as no less extraordinary than unfortunate. It gives rise to no little matter of reflection upon the source of the active effect of these doses of fabulous diminutiveness, and it shows that those optimists may err who think that homœopathy is a mere hocus-pocus, like the *papato* of the seventeenth century."

We have always thought and said that the clever rogues among the homœopathists take good care to give active doses of medicine under cover of their infinitesimal humbug. Here is a case in point. How could the Duke of Canizarro die from swallowing two or two hundred millionths of a grain of arsenic? The quackery and imposture of the thing are palpable. But it is of no use telling the public to avoid quacks. They *will* be gulled, and therefore individuals, like the Duke of Canizarro, must pay for it.

PHARMACY IN FRANCE.

The School of Pharmacy in Paris comprises five titular professors, "*professeurs*

titulaires," and three assistant professors, "*professeurs adjoints*." The other schools have three titular and two assistant professors. In each school there are also associated assistants, "*agrégés*," appointed for five years, who take the place of the professors in case of their absence, and assist at examinations. In the school in Paris there are five associate assistants, and three in the schools of Montpellier and Strasbourg. The titular and assistant professors are appointed by the minister of public instruction, from a double list of presentations, made, the one by the *School of Pharmacy*, and the other by the *Faculty of Medicine* of the town in which the school is situated. Each list of presentations contains the names of two candidates, but the same candidates may be presented both by the School of Pharmacy and by the Faculty of Medicine. No one can be named as titular professor who is not a doctor in physical sciences, and thirty years of age. The assistant professors are required to be licentiates in physical sciences, and twenty-five years of age. Both are required to have been admitted Pharmaciens in one of the schools of Pharmacy. The associated assistants are to be appointed by "*concours*," in a manner to be hereafter arranged in the council of public instruction. To be admitted to the "*concours*," it will be sufficient to produce the diploma of a Pharmacien and of a bachelor in physical sciences. The director of the school is to be chosen by the minister of public instruction, from among the titular professors. He is to be in office for five years, and is eligible for re-election. Each school is provided with a responsible secretary, chosen by the minister of public instruction, from among the titular or assistant professors. There are also one or more "*preparateurs*," who must have the degree of bachelor of physical sciences, and are appointed by the director, with the concurrence of the professors. The director appoints the officers and servants. The *instruction* in each school, comprises:—

First year.—Physics, Chemistry, and the Natural History of Medicines.

Second year.—Natural History of Medicines, Materia Medica and Pharmacy, properly so called.

Third year.—Toxicology; and in the practical school, Chemical and Pharmaceutical manipulations.

No candidate can be admitted to an examination for the title of Pharmacien, who has not obtained the degree of bachelor of letters. Besides the two professors in medicine who are appointed to officiate at the examinations, three members of the College of Pharmacy must also be present, namely, two titular or assistant professors, and one associated assistant. The students of the schools of Pharmacy, who have gained prizes at the "*concours*," are exempted from the fees. The amount remitted for each prize is to be regulated by the university. The names of the successful students are published.

The *receipts and expenditures* of the schools of Pharmacy are carried to the national budget of public instruction. The titular Professor, in Paris, is to receive a fixed annual salary of 4,000 francs; in the departments of 3,000 francs. The Assistant Professors, in Paris, are to receive an annual salary of 2,400 francs, in the departments 1,500 francs. The director is to receive in addition, as a jointure, an annual stipend of 1,500 francs, in Paris, and 1000 francs in the other Colleges. The salary of the Secretary, in Paris, is 3,000 francs: in the other schools, 1,500 francs. The salary of the Preparateurs is 1,200 francs. The payment for attendance at the examinations is 10 francs for those functionaries who are called upon to officiate. The same is allowed to the Professors, who are charged with the examination of herbalists. The fee for the annual certificate, granted to each student, is fixed at 36 francs in each of the schools. The charge for examinations remains unaltered; for the first examination, 200 francs; for the second, 200 francs; for the third, 500 francs. The expenses of operations and demonstrations, incurred during the third year, which are defrayed by the candidates, are fixed at 200 francs, in Paris, and 150 francs in the other schools.

The acquirement of the diploma of Bachelor of Letters, will not be required

in the candidates for examination, until the 1st of February, 1844.—*Pharmaceut. Transaction, Oct.* 1, 1841.

PHARMACY IN ENGLAND.

In the Pharmaceutical Journal we find the following outline of the plan in contemplation with respect to our future chemists and druggists. The "College of Pharmacy," if it is ever raised, will be due in a great measure to the energy, enthusiasm, and perseverance of Mr. Jacob Bell. We think that his exertions bid fair to elevate the social as well as the scientific position of the trade.

Three examinations are proposed.

1st. Apprentices should be examined in the classics and other elementary knowledge, which constitutes an ordinary liberal education. It would be desirable to inculcate the advantage of including the rudiments of physics and natural philosophy in the academical studies of the future Chemist, which would not only prepare his mind for the reception of the store of information required in his business, but would also be the means of testing his faculties, and ascertaining how far the practice of Pharmacy would be suited to his disposition. The examination of Apprentices will serve to restrict the adoption of the pursuit to those whose abilities and station in life are such as to afford a prospect of credit and success.

2nd. At the expiration of their apprenticeship or pupilage, they should be examined, in order to become Associates in the elements of chemistry and materia medica, botany, and the compounding of prescriptions. But a young man may be competent to perform the duties of a dispensing assistant and to retail drugs, without possessing that extensive practical and theoretical acquaintance with his business, which would be expected in a principal who is responsible for the superintendence and management of a pharmaceutical establishment.

This implies the necessity for a

3rd. Examination for the higher degree, which would entitle him to be admitted a Member of the "College of Pharmacy." This examination would comprise a more extended knowledge of chemistry, botany, materia medica, and practical pharmacy, including operations and demonstrations, and, probably, toxicology.—*Pharmaceutical Transactions, Oct.* 1, 1841.

PROPOSED SCALE OF FEES OF GENERAL PRACTITIONERS.

A correspondent of the Provincial Medical and Surgical Journal suggests the following:—

	s.	*d.*
For every mile we travel out from home, whether in the service of rich or poor	1	6
For every attendance upon a pauper	1	0
For bleeding a pauper, or dressing a wound, not associated with compound fracture, or other very serious case	1	0
For attendance in the family of a labourer not a pauper	1	6
For ditto, in the family of a small tradesman	2	6
For ditto, ditto, a grade higher	3	6
For ditto, ditto, first class, within three miles	5	0
For ditto, ditto, exceeding three miles, not exceeding five miles	7	6
For ditto, ditto, exceeding five miles	10	0
For extraordinary attendance at the rate of per hour	7	6

We fear it will be some time before any thing so just as the above will be obtained. But our brethren should constantly aim at payment *in* fees, and not *for* drugs.

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☞ *This is a most valuable concentration of Mr. Annesley's large and magnificent work, published a few years ago.*

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☞ *Never was half a crown better spent than in the purchase of this little "Thesaurus Medicaminum." This little work, with our visiting book and stethoscope are our daily companions in the carriage.*

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☞ *An eloquent Address in favour of several millions of the coloured race in our Transatlantic, Australian, Polyhesian, African, and Asiatic possessions.*

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EXTRA-LIMITES.

ABSTRACT OF REMARKABLE CASES, COMMUNICATED AT THE LAST MEETING OF THE BRITISH ASSOCIATION AT PLYMOUTH, ENTITLED "EXTRAORDINARY CASE OF ALBUMINOUS ASCITES WITH HYDATIDS; OF HEPATIC ABSCESS, WITH REMARKS ON THE INFREQUENCY OF ORGANIC DISEASES OF THE LIVER; OF HYDATIDS IN THAT ORGAN, WITH EXTENSIVE DISEASE UNDER THE MASK OF RHEUMATISM, AND OF PHTHISIS TERMINATING SUDDENLY IN HYDROCEPHALUS, ALSO WITH CO-EXISTENT DISEASE IN ALL THE MOST IMPORTANT ORGANS OF THE BODY. By Sir *David J. H. Dickson*, M.D. F.R.S. Ed. F.L.S. Inspector of Hospitals, Vice-President of the Medical Section, and of the African Institute of Paris, &c. &c.

FIRST CASE OF ALBUMINOUS ASCITES WITH HYDATIDS.—*James Prendergast*, pensioner, æt. 46, but in appearance much older, who had been invalided from this hospital, two years previously, and subsequently in Haslar, with ascites, was re-admitted greatly emaciated, and with the abdomen enormously enlarged, on the 11th September last. The dyspnœa and oppression were so great, that, though with little hope of benefit, it was deemed advisable to attempt to relieve him by tapping on the 17th; but about a pint only of a yellow gelatinous looking fluid slowly escaped through the round canula, and he died on the 27th September, 1840.

Sectio Cadaveris, thirty-one hours post-mortem.—The abdomen was much distended by a clear semi-concrete matter, nearly resembling half-liquified calves-foot jelly, while a thinner effusion occupied the interstices and viscera, which had been inseparably accreted by pre-existing inflammation of the peritoneal coat; a great quantity of this matter covered the peritoneum, and adhering to its processes, was detached in filmy vesicular masses, and also nearly filled the cavity of the pelvis; other globular bodies were distinctly invested by a fine, pellucid membrane, accurately resembling hydatids, some of them being smaller were appended to larger ones, which were attached by necks to the peritoneal surface of different organs, or in firmer cysts, were embedded in their structure; especially in the spleen. These vesicular cysts were of various sizes from a small grape, or nut, to that of an orange; but they decreased in distinctness of organization as they increased in size. The liver and kidneys were small, rather pale and soft. The stomach, viscera, urinaria, and other organs, appeared to be healthy. The more fluid portion of this jelly-like effusion coagulated by heat, and on being tested by the nitric and acetic acids, tincture of galls, &c. was found to consist principally of albumen with a smaller proportion of gelatin.

The reading of this case, by Sir David, gave rise to some discussion on the nature of false and true hydatids, upon which Professor Williams made some interesting remarks: and another case was subsequently adduced by the writer, where numerous hydatid cysts within each other, were found in an excavated liver, of every size from a pin's head to that of an egg, but the greater number much resembling bunches of the small, white grape, in size and appearance.

Sir David Dickson subsequently presented some cases of hepatic abscess, the contents of two of which made their way through the diaphragm into the bronchi, and were discharged by expectoration; one of them by opening the abscess externally; and another by escaping into the cavity of the abdomen. These cases, and of which the following is a brief account, were accompanied by some remarks on the comparative infrequency of serious organic diseases of the liver, concluding in the following words. "I may add, though in opposition to some high authorities, that occasionally, but not necessarily, or even frequently, have I observed hepatic and splenic disease to be connected, or co-existent. The rather singular coincidence of these cases occurring within

a short period, all of which, except the first, occurred in the same quarter, might lead to the inference that such are of frequent occurrence; but my experience, for nearly eighteen years in this hospital, has induced me to form precisely the opposite conclusion. For although so frequently receiving invalids from foreign stations, in the last stage of thoracic and abdominal disease, and although amongst our, consequently, numerous post-mortem investigations, during that period, we have doubtless often met with changes in the size, consistence, appearance, &c. of the liver; and occasionally very interesting instances of various organic diseases; including what has been termed scirrhus, tubera, hydatids, and other morbid growths, yet the aggregate result of our necroscopic researches, abundantly corroborate my previous remarks, in the July number of the Medico-Chirurgical Journal for 1838, and elsewhere, that whatever may be the case with respect to its functional derangements, (although even here I am inclined to believe that it has not seldom, undeservedly borne the blame for contiguous viscera), that organic diseases of the liver are of much less frequent occurrence, than from the writings of authors we should be led to expect."

CASE OF HEPATIC ABSCESS. *Joseph Gardner*, R. M. æt. 28, was admitted on the 12th October, with pain in the right side, cough, nausea, diarrhœa and hectic fever. From the beginning of November, he continued to expectorate large quantities of pus mixed with bloody mucus; but the hæmorrhage, though repeatedly very copious and of a fresh colour, was so much restrained by large doses of acetate of lead and opium, that although bringing up such quantities of blood, he survived until the 16th December.

Sectio Cadaveris 13 hours post mortem.—The lungs were healthy and crepitous, except the lower part of the right lobe, which was invaded by hepatic purulent infiltration, and a small portion of it and of the diaphragm which had been attached to it, destroyed by the matter forcing its way upwards into the bronchi. The cavity of the abscess capable of containing at least 24 ounces of fluid, was lined by a flocculent tissue with but little condensation of the surrounding parts. The gall-bladder, spleen, pancreas, &c., were normal: portions of the mucous membrane of the stomach and ileum appeared congested, the coats of the large intestines seemed thickened throughout, and the mucous surface abraded so deeply in some places, as to lay bare the fibres of the muscular tunic, which could be raised upon the knife.

The writer here noticed another case of abdominal abscess.—*John Allberry*, also admitted in the last stage of debility, with cough and hectic fever; who after having expectorated enormous quantities of gross pus, which had, likewise, forced a passage through the diaphragm, was discharged quite convalescent. From the report of the case transmitted with him, the abscess, from the vast quantity of matter he had spit up, must have been of great size, and situated behind the peritoneum, below, and between the liver and the right kidney. This man and another previous case, the particulars of which had escaped recollection, ultimately recovered.

Joseph Blackburn, S. æt. 30, considered to be labouring under pectoral disease, was admitted on the 22d November, 1839, with a swelling in the right hypochondrium, supposed to be caused by protrusion of the liver from the pressure of empyema on that side of the chest. On examination, the liver was found to be large, painful and indurated, with fever, cough, pain of the right shoulder, &c., and the whole abdomen felt tumid and tender. Leeches, purgatives, mercurials, iodine, &c., and afterwards fomentations and cataplasms, when the formation of matter became evident, the tumor advanced rapidly to suppuration and toward the surface, and fluctuation became perceptible. As the patient was sinking under irritative fever, it was opened by an incision on the 5th December, and above a quart of sero-purulent fluid was discharged with great relief. The hectic symptoms rapidly subsided, and re-union of the edges of the wound being prevented, a great quantity of sero-purulent fluid of a sickening, offensive odour, but latterly more thick and purulent, was from time to time discharged. This patient gained flesh and improved so rapidly as at one time to give some hopes of his recovery; but the discharge of pus from the external opening continued, profuse, and was generally mixed with much blood; hectic again set in, with great emaciation, and he died on the 5th February, 1840.

Sectio Cadaveris. The liver was enormously enlarged, weighing nearly ten pounds and filling both hypochondria; externally it was mottled. The hypertophied cellular

structure was of a pale buff with occasional vascular patches, and interspersed with small abscesses, varying from the size of a pea to that of a shilling. The inferior part of the right lobe which pushed up the diaphragm, was agglutinated laterally and inferiorly to the abdominal wall, omentum, cæcum and kidney, and was excavated by a large abscess, the contents of which had been discharged through the opening made below the ribs on the right side, and were prevented by the adhesions from escaping into the peritoneal cavity. The whole of the organ was softened and infiltrated by small collections of straw-coloured pus, but without cysts, while the large cavity contained a sanious fluid with flakes of lymph, and communicated with the smaller abscesses and gall-ducts, accounting for the bilious-looking matter discharged a short time before death. There was much fatty deposition among the other abdominal viscera, which appeared healthy and strangely contrasted with the external emaciation of the patient.

James Lee, S. æt. 35, of a leuco-phlegmatic habit, was admitted 9th October, 1839, with enlargement and tenderness of the hepatic region, pale, sallow skin, white chalky tongue, and loose, irregular bowels, without fever. The treatment was necessarily much modified by almost constant vomiting and purging; symptoms of dropsy, especially of the limbs, supervened, and he died on the 19th December.

On Dissection, the abdomen was found to contain a small quantity of fluid. The liver was large, and the right lobe very globular, with a depression resembling a cicatrix on its convex surface: fluctuation was very perceptible on its posterior part, and on opening it, about three pints of purulent matter, at first brownish, but afterwards thick and primrose-coloured, escaped. The walls of the sac, which were flocculent, and so thin, that rupture would probably have soon taken place, were in contact with the diaphragm posteriorly, and superiorly; and with the right kidney, inferiorly. The pancreas was remarkably hard, but not enlarged; and its duct was pervious. The kidneys were enormously enlarged, and indurated; the right weighing eleven, the left, fourteen and a half ounces, and forming excellent specimens of the degeneration so well described by Dr. Bright. The next hepatic case to be noticed, is that of

William Jones, æt. 46, who was admitted on the 13th December, with the abdomen tense, and painful, in the last stage of emaciation, and indeed moribund, and died the following evening.

On examination, the intestines were found to be of a florid red colour; the abdominal cavity contained a large quantity of yellow serum, mixed with pus; which was discovered to have escaped from a large abscess in the superior part of the liver; bounded below by the right kidney, which it had displaced two inches downwards: the interior of the abscess was lined by a cyst of a honey-comb appearance, and towards the abdominal cavity of considerable thickness. Though not altered in shape, the right lobe felt extremely soft, and on section, exhibited numerous other small abscesses with strong cysts, from which straw-coloured pus flowed freely: the gall-bladder was turgid with pale, yellow bile, and another abscess existed between the spleen and left kidney.

The following, which occurred several years ago, are selected from other instances of serious and extensive disease (without being indicated by proportional severity of the symptoms) co-existing in various important organs of the body.

CASE OF HYDATIDS.—*Thomas Richards*, S., æt. 25, was admitted on the 28th Feb. 1835, stated to be labouring under acute rheumatism. His chief complaint was of pain in his knees, and limbs generally; but he also evidently laboured under considerable, though ill-defined internal disease, as he had always a quick pulse, anorexia, a foul tongue, and diarrhœa. On one occasion he had been bled with immediate relief, for a pain in the right side, and his sallow countenance indicated hepatic disease; but the great complaint was of muscular pains and a troublesome cough. He died almost instantly, after eating a better breakfast than usual, on the 29th March.

Necrotomy presented the ravages of disease to a most extraordinary degree: the lungs on both sides adhered to the costal pleuræ, and contained several abscesses of various sizes, from which matter escaped in the attempt to detach them: the spleen was in a similar state of suppuration; and a communication was discovered to exist between it and the descending colon; but whether pre-existing, or produced by separating them, could not be determined. The left lobe of the liver presented the appearance of a large abscess; the cyst of which adhered by its convex side to the diaphragm; and by the

opposite or concave surface, to the stomach. The sac which was semi-cartilaginous, and contained some matter of a melliceous appearance, was filled with hydatids of every size, from a pin's head to that of an egg; but the greater number very much resembled, in size and form, a white grape. Several again contained some small hydatids within each other; and altogether a finer specimen cannot well be imagined. In the right lobe there was a large abscess, containing at least a pound of purulent fluid and communicating with smaller ones by several fistulous openings. The kidneys, as also the stomach, especially towards the cardia, and the enteric mucous membrane in different places exhibited traces of sub-acute inflammation, and the minute vessels injected, resembling fine sea-weed expanded on paper.

CASE OF PHTHISIS SUDDENLY TERMINATING IN HYDROCEPHALUS; AND OF CO-EXISTENT DISEASE TO AN EXTRAORDINARY EXTENT IN MOST OF THE ABDOMINAL VISCERA.—Mr. *George Roberts*, æt 19, was admitted on the 14th September, 1835, with cough, hurried respiration, and symptoms indicating approaching phthisis, with pain occasionally in the lower part of the right side of the abdomen. He became apparently convalescent, and was discharged on the 9th January, in consequence of swelled testicle, to the surgical wards, whence he returned on the 30th, with cough and other pectoral symptoms, considerably aggravated by a fresh cold. In a few days the chest affection diminished in severity, and the head become proportionally affected, with mild delirium, strabismus, &c. and he died with strongly-marked symptoms of cerebral effusion, on the 8th February. This was a very extraordinary instance of metastasis, or transference of morbid action from the lungs to the brain, the erethism of the latter organ terminating suddenly in the "waterstroke" of Dr. Golis.

On *dissection*, the brain externally felt pulpy; and on cutting into it, it was found to be very much softened; particularly towards its basis: all the ventricles were completely distended with water; computed to amount to about ℥viij. The foramen monroianum opened so large a communication between the lateral ventricles as to have easily admitted a quill; and the laminæ of the septum lucidum were so much separated, as to afford an excellent view of the fifth ventricle. The lungs adhered everywhere to the costal pleura, and diaphragm; their substance was thickly knotted with unripe tubercles, none being larger than a pea. The pericardium contained ℥iv. of fluid. The abdominal peritoneum adhered to the omentum, and the latter to the intestines; while the mucous membrane was thickly studded with small, firm, granular bodies resembling in size, the tubercles of the lungs. A small sac, containing curdy, scrofulous pus, was embedded in the peritoneum, covering the superior part of the right psoas muscle; and an hydatid the size of a walnut, was found lying loosely in the right side of the abdominal cavity; where he had complained of pain. The intestines themselves were so completely accreted, by pre-existent inflammation of the peritoneal covering, that they could not be separated without rupturing their coats. Strong adhesions existed between the convex surface of the liver and diaphragm, also between it, the stomach, and the arch of the colon, which were connected with equal firmness to the concave surface of the liver. In fine, it was astonishing to witness the extent of peritoneal inflammation and consequent agglutination of the viscera in this case, without its having excited greater uneasiness, or more prominent symptoms.

DAVID J. H. DICKSON, Inspector.

Naval Hospital, Plymouth, 5th Dec. 1841.

COPY OF A LETTER

From Dr. W. B. CARPENTER *of Bristol (England), to Professor* DUNGLISON *of Philadelphia, in reference to certain Charges made against the former by Dr.* MARTIN PAINE, *Professor of the Institutes of Medicine in the University of New York, in his "Examination of Reviews, &c."*

Bristol, Nov. 16, 1841.

MY DEAR SIR,—Having just received from Dr. Paine a copy of his "Examination" of the Critique on his Medical and Physiological Commentaries, which appeared in the April Number of the British and Foreign Medical Review, I find, to my great surprise, that Dr. P. has thought himself justified, not only in singling *me* out as the Author of it, and in animadverting upon what he considers to be *its* misrepresentations, as if they were *mine* (thereby attempting to make that a matter of personal discussion between us, for which the Editor of the Review holds himself responsible,)—but also in fixing upon me a charge of literary plagiarism, which is calculated, if I allow it to remain uncontradicted, to do great injury to my personal as well as to my scientific character.

Before going further, I must express my astonishment that any person, holding the position which Dr. Paine occupies, should commit himself to so grave a charge against an individual, to whose discredit he *knows* nothing, upon evidence so flimsy as that which he adduces;—especially as he must have been aware that, from the distance of the accused party, his defence could not be laid before the public, until many months should have elapsed since its publication, during which time, an injurious impression would have been formed not easily to be eradicated. And I think that I have further a just right to complain, that Dr. Paine's inculpation of me is not confined to surmise; but that, after he has proved his point to his own satisfaction, he has taken it for granted, and, throughout the latter part of his pamphlet, has continually coupled my name with the accusation of gross plagiary.

The evidence which Dr. P. adduces in support of his charge, is briefly the following:—Having made up his mind, from certain coincidences of opinion and of expression, between the Critique on his Commentaries and my Principles of Physiology, that I must be the writer of the former, he has searched in previous numbers of the same Review for Articles written as he imagines, by the same Author. In this search he thinks himself assisted by references occasionally made from one article to another,—the complete fallacy of which kind of evidence is exposed in Dr. Forbes's letter. Upon the same evidence, I must have been the Reviewer of my own work; and I am not certain whether Dr. P. does not mean to insinuate as much. Any person, however, who carefully reads that review, which I did not see until it was in print, may find abundant evidence of the absurdity of such an idea. With respect to the other chief source of Dr. P.'s evidence,—coincidence in opinion, and in the mode of expressing it,—I will only say that Dr. P. shows great ignorance of the state of physiological science in this country, if he imagines that the opinions expressed in my Principles, on the subjects alluded to, are at all peculiar to myself; and it is very natural that one writer should almost unconsciously adopt the phraseology of another who has recently treated of the same questions, when desiring to express the same ideas.

So much for the evidence on which Dr. P.'s charge is founded. I have thus examined it, merely to show how unjustifiable it was in Dr. P. to charge me with the perpetration of a gross literary theft, upon no better grounds. The charge itself,—that in a review of Hunter on the Blood, in a former volume of the same Journal, I unceremoniously adapted certain passages from Dr. Channing's Essay on Milton, to a very different purpose, is easily disposed of. *I did not write that review.* To those who know me, my simple denial would, I am confident, be amply sufficient; but for the satisfaction of Dr. Paine, who, in his ignorance of my character, may think me as capable of asserting a falsehood as of stealing a paragraph, I enclose a note from Dr. Forbes, confirmatory of my assertion.

Dr. Paine considers that his identification of me with the plagiarist is triumphantly confirmed, by a correspondence which he imagines that he has detected, between certain passages in my Principles of Physiology, and others which he has selected from Dr. Channing's Sermons. I am myself completely at a loss to discover this correspondence;

and my friends here find it equally difficult. The falsity of this charge is as easily proved as that of the other; for *I have never* (I speak it almost with shame) *read the Sermons* from which Dr. P. quotes. The ideas which I have expressed, have so long been familiar to my mind, that I cannot imagine that they involve anything peculiarly *Channing-ism*. If any correspondence do exist, it is easily accounted for by the fact, that I received my education from one who was, for many years, the respected and attached friend of that illustrious man, and whose mind, cast in the same mould with his, impressed mine with those habits of thought which have led to whatever similarity may present itself between our published opinions.

In regard to Dr. Paine's criticisms upon the scientific opinions I have expressed in my Principles of Physiology, I shall not now offer any remarks; nor do I intend to take up the gauntlet from an opponent, who has shown himself so destitute of judgment and of good feeling. Of the merits of our respective productions I am quite content to leave the public to judge.

Having few means of placing my statement before the Medical Public of America, save through your mediation, I take the liberty of so far trespassing on your kindness, as to request you to gain insertion for it in such journals as may give it a circulation equal to that of Dr. Paine's calumnious charges against me.

Believe me to remain, Dear Sir,
Respectfully and sincerely yours,
WILLIAM B. CARPENTER.

From Dr. Forbes, Editor of the British and Foreign Medical Review, to Dr. W. B. Carpenter.

DEAR CARPENTER,—As I think it would be a piece of silliness, only second to that of writing and publishing the "Examination," to attempt any detailed or serious reply to Dr. Paine's wordy reclamation, or any justification of the article in the Review to which it refers,—I shall take no notice whatever of his attack, further than relates to the charge of plagiarism. *This is true*, so far as the writer of the Review on Hunter is concerned, but *false* as concerns *you*,—since you did not write that review. This I am ready to state to all persons, at all times, as the truth, without any reservation or equivocation. The conduct of the writer of that review, in palming upon the Editor a portion of the writings of another for his own,—if really done intentionally and with a view to deceive (I would fain hope that the fact may admit of some other interpretation), cannot be sufficiently reprobated. Although, as being the first specimen I had had of this person's writing, (and, with one trifling exception, the only one I have ever had), I might be forgiven for not suspecting the authenticity of the surreptitious passages, I take shame to myself for being so little acquainted with the eloquent writings of Dr. Channing, as not to detect the theft before the MS. left my hands for the press.

Perhaps when Dr. Paine discovers that he is mistaken in the affiliation of this portion of the Review, he may feel somewhat less confident of the evidence by which he thinks he has traced the authorship of other articles in it to you. I certainly shall not gratify his curiosity on this point, by either affirming or denying the accuracy of his conclusions; and I do not see any reason why you should.

It is singular that Dr. Paine should have been so ignorant of the ordinary mode of conducting a review, as not to know that the reference from one article to another is no proof whatever of the identity of the authorship of the two,—even when this reference is made by the writer of the latter article. But, most commonly, such references are made by the Editor, without any communication with the original writer, in the exercise of the privileges inherent in the office of the great editorial WE.

In looking at the vast accumulation of words in Dr. Paine's pamphlet, I confess that I feel regret that the review of his book (just and accurate as I still hold it to be), was not more favourable; as it is melancholy to think that so much time and pains should have been stolen from tasks of usefulness, and expended in elaborating a work, which, of course, no human being will read, except the author himself, perhaps the writer of the inculpated article, and alas! the Editor of the Review.

It is lamentable to see how this mortification of Dr. Paine's self-love has clouded his judgment throughout the whole composition of his pamphlet; and this obfuscation is

nowhere more conspicuous, than where he attempts to convict you of plagiarizing, in your "Principles of Physiology," from Dr. Channing. The very examples he adduces confute the charge.

Believe me, Dear Carpenter, to be
Most truly yours,
Old Burlington Street, Nov. 15, 1841. JOHN FORBES.

ROYAL COLLEGE OF SURGEONS, IN LONDON.

December, 16, 1841.

THE President and Council finding it necessary to reprint the List of the Members of the College, early in the ensuing year, request all those members who have not attended to the wishes of the Council, as expressed in the following advertisement of the 8th of April last, to send in the proper statement between the 1st of January and the 1st ef February, 1842, on which last day the list will be sent to press.

EDMUND BELFOUR, Secretary.

ROYAL COLLEGE OF SURGEONS IN LONDON.

The Council of the College, desirous of furnishing to the Public a correct List of their Members, request that each Member will be pleased to transmit to the Secretary, between the 1st of June and 1st of July in every year, by letter, a Statement containing his name at full length, address and date of Diploma, in his own handwriting, in order that it may be compared with the Chronological List.

The Council will be further obliged by the Member stating it in a similar manner when he has a Degree in Medicine, or the Licence of the Society of Apothecaries.

The Council will be glad to receive corresponding Statements from the Members of the Edinburgh or Dublin College of Surgeons, practising in England or Wales.

April, 8*th*, 1841. EDMUND BELFOUR, Secretary.

ROYAL COLLEGE OF SURGEONS IN LONDON.

All Students of Anatomy and Surgery attending Hospital Practice or Lectures in London, and proposing to be Candidates for the Diploma, are required to Register at the College during the last ten days of January, April and October, the several Tickets for Lectures and Hospital Practice to which they shall have respectively entered:—and no Certificates will be recognized by the Court of Examiners unless they shall correspond with such Registrations.

(By order,) EDMUND BELFOUR, Secretary.

April, 13, 1840.

ROYAL COLLEGE OF SURGEONS IN LONDON.

Registration of Members.

The President and Council in publishing the Corrected List of the Members of the present year, with the date of each diploma, regret that so many Members have omitted to make the return during the months of June and July, according to the form proposed by the Council. They are anxious to explain to the Members that the object of this Annual Registration is to furnish the Judges, Magistrates, Clerks of the Peace, Poor Law Commissioners, Boards of Guardians, and the Public generally, with a correct List of qualified Surgeons, in order to prevent the various impositions which have been practised upon them, by ignorant pretenders and other unqualified persons.

The names of all Members who shall not have registered themselves previously to the months of July, 1842 and 1843, will be omitted in the Corrected List of the latter year.

The President and Council particularly wish to intimate to all Public Functionaries, that no Diploma can be genuine, in which there is any erasure, interlineation, or other alteration.

October, 14, 1841.

N.B.—The Corrected List for 1841, may be purchased at the College for One Shilling.

REGULATIONS OF THE COUNCIL RESPECTING THE PROFESSIONAL EDUCATION OF CANDIDATES FOR THE DIPLOMA. 20th August, 1839.

Amended, October 14, 1841.

I. Candidates will be required, in addition to a Certificate of being not less than twenty-one years of age, to bring proof

1. Of having been engaged in the acquirement of professional knowledge for not less than four years; during which period they must have studied Practical Pharmacy for six months, and have attended one year on the Practice of Physic, and three years on the Practice of Surgery, at a recognised Hospital or Hospitals in the United Kingdom;*—three months being allowed for a vacation in each year.

2. Of having studied Anatomy and Physiology, by attendance on Lectures and Demonstrations, and by Dissections, during three Anatomical Seasons or Sessions *extending from October to April inclusive.*

3. Of having attended at least two Courses of Lectures on the Principles and Practice of Surgery, delivered in two distinct Periods or Seasons, each Course comprising not less than 70 Lectures:—And one Course, of not fewer than 70 Lectures, on each of the following subjects, viz. the Practice of Physic—Chemistry—Materia Medica—and Midwifery with Practical Instruction.

II. Members and Licentiates in Surgery of any legally constituted College of

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* By a Resolution of the Council, on the 7th of November, 1839, no Provincial Hospital will in future be recognised by this College which contains fewer than 100 Patients, and no Metropolitan Hospital which contains fewer than 150 Patients.

Surgeons in the United Kingdom, and Graduates in Surgery of any University requiring residence to obtain Degrees, will be admitted for examination on producing their Diploma, Licence, or Degree, together with proofs of being twenty-one years of age, and of having been occupied at least four years in the acquirement of professional knowledge.

III. Graduates in Medicine of any legally constituted College or University requiring residence to obtain Degrees, will be admitted for examination on adducing, together with their Diploma or Degree, proof of having completed the anatomical and surgical Education required by the foregoing Regulations, either at the School of the University, where they shall have graduated, or at a recognized School or Schools in the United Kingdom.

IV. Certificates will not be recognized from any Hospital unless the Surgeons thereto be members of one of the legally constituted Colleges of Surgeons in the United Kingdom; nor from any school of Anatomy, Physiology, or Midwifery, unless the respective teachers be members of some legally constituted College of Physicians or Surgeons in the United Kingdom; nor from any School of Surgery, unless the respective teachers be members of some legally constituted College of Surgeons in the United Kingdom.

V. Certificates will not be received on more than one branch of Science from one and the same Lecturer; but Anatomy and Physiology—Demonstrations and Dissections—will be respectively considered as one branch of Science.

VI. Certificates will not be received from Candidates for the diploma who have studied in London, unless they shall have registered their Tickets at the College as required, by the regulations, during the last ten days of January, April, and October in each year:—nor from Candidates who have studied elsewhere, unless their names regularly appear in the Registers transmitted from their respective Schools.

N.B.—In the Certificates of attendance on Hospital Practice and on Lectures, it is required that the dates of commencement, and termination, be clearly expressed, and no interlineation, erasure, or alteration will be allowed.

Blank forms of the required Certificates may be obtained on application to the Secretary, to whom they must be delivered properly filled up, ten days before the Candidate can be admitted to examination; and all such Certificates are retained at the College.

MUSEUM.

The MUSEUM is open to the Members of the College, and to the Trustees of the Hunterian Collection, and to Visitors introduced to them personally, or *by written orders stating their names; which orders are not transferable;* on the public days, which are Mondays, Tuesdays, Wednesdays, and Thursdays; from Twelve to Four o'Clock, except during the month of September, when the Museum is closed.

The Museum is open on public days to all Fellows and Licentiates of the Royal College of Physicians in London, to Peers and Members of Parliament, to the Great Officers of State, and of the Royal Household and their immediate Deputies; to all the Dignitaries of the Church and of the Law, to all General and Flag Officers, to the Members of all the learned and Scientific Bodies in the United Kingdom, to the Members of all the Public Boards, and *to persons introduced*

personally by them respectively. And to all respectable Foreigners, and to the Articled Students of the College; on entering their Names and Ranks or Stations in the book provided for that purpose.

Lastly, the Secretary and Conservators will exercise their judgment in giving admission to any respectably dressed Persons, who may apply for it.

The Museum will be open on Fridays to Gentlemen desirous of studying in it, from Twelve to Four in Winter, and from Twelve to Five in Summer, on their making a written application to the President or Museum Committee.

The Senior Conservator, Mr. Clift, will attend every day on the Visitors and Students, and both the Conservators, Messrs. Clift and Owen, on Saturdays from Ten to One, on which day, Visitors and Students desirous of comparing Specimens with those in the Museum, or of having Specimens examined, or of gaining other information, are requested to present themselves.

N.B. The Parts of the Catalogue of the Collection, already printed, are to be purchased at the Museum at cost price.

LIBRARY.

The LIBRARY is open daily, Sundays excepted, to Members and Articled Students of the College, from Ten until Four o'clock, from the 1st of October to the 1st of April; and from the 1st of April to the 1st of September, from Ten until half past Five o'clock.

Members have the privilege of personally introducing a visitor.

Persons, not Members, desirous of admission, must make application, in writing, to the President or Library Committee, specifying their Christian and Surnames, Rank or Profession, and Residence.

Tickets of admission are granted for six months, at the expiration of which time application must be made for their renewal.

Readers, taking extracts from any book, may not lay the paper on which they write on any part of such book; nor may any tracings be taken from any plate without the permission of the Committee.

Books belonging to the College are not to be written upon; and any one observing a defect in a book is requested to report the same to the Librarian.

Readers desirous of consulting works not in the Library are requested to communicate their wishes in writing to the Librarian, in order that the same may be reported to the Committee.

The admission Tickets are not transferable.

Every person upon admission to the Library is required to insert his Name and Address in a book provided for that purpose.

Readers wishing to refer to any book are requested to furnish the Librarian with the Title or Number thereof written on a slip of paper: and to return such Book to the Librarian before quitting the Library.

N.B. The Catalogue of the Library is to be purchased at the College at Twelve Shillings the two Parts.

TRANSACTIONS.

The COUNCIL proposing to publish, in the course of the ensuing year, a Volume, to be entitled

"*Transactions of the Royal College of Surgeons in London,*"

·ite from the Members of the College and other scientific Persons, Communi-
)ns relating to the improvement of Anatomical and Surgical science.

The subjects proposed to be included in this Publication are specified in the following extract from the Ordinances of the College:—

"The Transactions shall consist of

Original Communications on Surgical subjects.

Collegial and Jacksonian Prize Dissertations, deemed of sufficient originality and merit.

Original Memoirs on Human Anatomy.

Original Memoirs on Comparative Anatomy.

Anatomical Monographs of rare Animals, dissected in the Museum of the College.

Explanations of, and Commentaries on, important Preparations in the Museum, with illustrative Plates.

Statistical Reports from Hospitals."

It is requested that Papers intended for Publication in this Volume may be transmitted to the President, at the College, on or before the 1st of May, 1842.

STUDENTSHIPS IN ANATOMY.

Ordinances.

1. Three Studentships in Human and Comparative Anatomy shall be instituted; to be held by each Student for the term of Three Years, at a Salary of One Hundred Pounds per annum.

2. Candidates shall be Members of the College, under Twenty-six years of age.

3. The Council shall determine annually whether one or more of such Appointments shall take place during the current year; and shall notify its Resolution by Public Advertisement.

4. The Appointment shall be made in the month of June, or as soon after as possible.

5. The Students shall be subject to such Duties and Restrictions as the Council shall from time to time direct; and in case of misconduct shall be liable to dismissal.

Regulations.

1. A Report shall be made to the Council in the month of March of the number of Vacancies, or expected Vacancies, in these Studentships; whereupon the Council shall determine whether any, and what number, of such Vacancies shall be filled up, and shall direct the necessary Advertisements.

2. Candidates shall transmit to the Secretary, on or before the 1st of May, their Applications for the Appointment, together with Certificates of general good character and of fair acquirements in general learning, signed by two qualified Members of the Medical Profession.

3. A Meeting of the Museum Committee shall be held as soon after the 1st May as conveniently as may be, at which the applications of Persons offering themselves shall be examined, and if approved, they shall be admitted as Candidates.

4. The Museum Committee shall determine the mode of ascertaining the Merits of the several Candidates, and shall, after due investigation, report to the Council which of the Candidates in their opinion possesses the highest merit.

5. Students shall attend in the Museum daily (Sundays excepted) from Ten till Four o'Clock, and shall be entirely under the direction of the Conservators, who shall employ them as they shall see fit; and who shall have the power of granting leave of absence when they think proper.

6. In case of misconduct or neglect, the students shall be liable to be dismissed at any time by the President and Vice-Presidents, who are to report such dismissal, with the grounds thereof, to the next Meeting of the Council.

The President and Council have great pleasure in announcing that, at the instance of the Director-General of the Medical Department of the Army, the Physician General of the Royal Navy, and the Chairman of the Honourable East India Company; the General Commanding the Army in Chief, the Lords Commissioners of the Admiralty and the Court of Directors, have, with the view of promoting the objects of the College, been pleased to place at the disposal of the President and Council an Assistant Surgeoncy in each Service, once in three years, for such of the said Students as may be considered worthy of these honourable distinctions.

THE SUBJECT OF THE COLLEGIAL TRIENNIAL PRIZE OF FIFTY GUINEAS,
Is the Structure and Functions of the Lungs.

THE SUBJECTS OF THE JACKSONIAN PRIZES OF TWENTY GUINEAS EACH.
For the next Year, 1842, are

The Comparative Value of the Preparations of Mercury and Iodine in the Treatment of Syphilis,
AND
Injuries and Morbid Affections of the Maxillary Bones, including those of the Antrum.

These prizes to be written for under the following

CONDITIONS.

Candidates to be Members of the College, not of the Council.

The Dissertations to be in English, and to be distinguished by a motto or device, accompanied by a sealed paper containing the name and residence of the Author, and having on the outside a motto or device, corresponding with that on the Dissertation.

Recited Cases to be placed in an Appendix.

Dissertations for the Jacksonian Prizes to be addressed to the Secretary and delivered at the College before Christmas Day, 1842.

Dissertations for the Collegial Anatomical Prize to be also addressed to the Secretary and delivered at the College before Christmas Day, 1842.

The Prize Dissertations, with every accompanying drawing and preparation, will become the property of the College; the other Dissertations and their corresponding sealed papers will be returned upon authenticated application within the period of three years; after which the papers containing the names of the respective Authors will be burned, unopened, and the Manuscripts will become the property of the College.

COPY OF A CLAUSE,

In—"*An Act for consolidating and amending the Laws relating to the building, repairing and regulating certain Gaols and Houses of Correction in* ENGLAND *and* WALES."

"4th GEORGE the IVth, cap. 64. [10*th July*, 1823.]"

"XXXIII. And be it further Enacted,—That the Justices in General or Quarter Sessions assembled, shall and they are hereby required from Time to

time to appoint a Surgeon, being a Member of one of the Royal College of Surgeons, to each of the Prisons within their Jurisdiction to which this act shall extend; and every such Surgeon shall and is hereby required to visit every Prison to which he shall be so appointed twice at least in every Week, and oftener if necessary, and to see every Prisoner confined therein, whether Criminal or Debtor, and to report to every General or Quarter Sessions the Condition of the Prison, and the state of Health of the Prisoners under his care: and he shall further keep a Journal, in which he shall enter the date of every attendance on the Performance of the Duty, with any observations which may occur to him in the execution thereof, and shall sign the same with his name: and such Journal shall be kept in the Prison, but shall regularly be laid before the Justices for their inspection at every Quarter Sessions, and shall be signed by the Chairman of the Sessions, in proof of the same having been there produced; and shall and may be lawful for the Justices, at every Quarter Sessions after such Appointment, to direct a reasonable Sum to be paid as Salary to such Surgeon, and also such Sums of Money as shall be due for Medicines and other Articles for the Sick."

EXTRACT OF A CLAUSE

Of the Act of 6th GEORGE the IVth, cap. 50,

Exempting persons from serving on Juries or Inquests.

Provided always, and be it further Enacted, That all Surgeons being Members of one of the Royal Colleges of Surgeons in London, Edinburgh, or Dublin, AND ACTUALLY PRACTISING, shall be and are hereby absolutely freed and exempted from serving upon any Juries or Inquests whatsoever, and shall not be inserted in the Lists to be prepared by virtue of this Act as hereinafter mentioned.

ROYAL COLLEGE OF SURGEONS IN LONDON.

COURT OF EXAMINERS, December 10th, 1841.

RESOLVED,—That until the 1st of October, 1842, Candidates for the Diploma of this College be admitted to Examination, under the Regulations of the 14th of March, 1835, or the 25th of June, 1838, or of the 20th of August, 1839, according to the date of the commencement of their Professional Education; and that from and after the said 1st of October, 1842, Candidates will *only* be admitted to Examination under the Regulations of the 20th of August, 1839, as amended on the 14th of October, 1841, unless under particular circumstances of apparent hardship, which must be represented by Letter to the Court.

EDMUND BELFOUR, *Secretary.*

FINANCES.—*The* RECEIPT *and* EXPENDITURE *of the* COLLEGE *in the Year from Midsummer-day*, 1840, *to Midsummer-day*, 1841, *were as follows, viz:*

The **RECEIPTS** amounted to £14158 6*s.* 4*d.* from the following sources of Income, viz.

Court of Examiners				£12671	14	0
Rent				87	10	0
Fees on Admission to Council and Court of Examiners				105	0	0
Fee on Certificate of Diploma				5	5	0
Incidental; Sale of Lists, Catalogues, etc.				39	13	0
					£12859	2 0
Dividends on Investments in Government Securities					1299	4 4
						£14158 6 4
Balance in the hands of the Bankers at Midsummer-day, 1840						727 17 8
						£14886 4 0

The **DISBURSEMENTS** amounted to £14503 4*s.* 3*d.* divided under the following heads, viz.

1st.	COLLEGE DEPARTMENT, including Council, Court of Examiners, Auditors, Diploma Stamps, List of Members, Collegiate Prize, Salaries, Wages, &c.	£6357	12	7	
2nd.	MUSEUM DEPARTMENT, including Catalogues, Specimens, Spirit, Bottles, Stationery, Salaries, Wages, &c.	2823	5	11	
3d.	LIBRARY DEPARTMENT, including the purchase and binding of Books, Salaries, &c.	778	0	0	
4th.	MISCELLANEOUS EXPENSES, including Taxes, Rent, Insurance, Furniture, and Incidental Payments, &c.	434	6	3	
5th.	Studentships in Anatomy	192	7	7	
6th.	Repairs and Alterations	238	19	11	
7th.	EXPENDITURE UNDER DEEDS OF TRUST, including Hunterian Oration, Lectures, and Jacksonian Prize	99	17	0	
			£10924	9 3	
Investment			3578	15 0	
					£14503 4 3
Balance in the hands of the Bankers at Midsummer-day, 1841					382 19 9
					£14886 4 0

SUMMARY.

Incidental income	£12859 2 0	
Permanent ditto	1299 4 4	
		£14158 6 4
Incidental Expenditure	11261 14 2	
Permanent ditto	3241 10 1	
		£14503 4 3

TO THE EDITOR OF THE MEDICO-CHIRURGICAL REVIEW.

London, December 18, 1841.

SIR,—I was much astonished that a London Medical Journal (the Lancet) of which a political Journal, the Times, appears to be the echo, should so impudently and abusively defend the system of "non-restraint" in the treatment of all cases of mental alienation, whilst no one has taken upon himself to undeceive the readers of the Lancet, on a system vaunted in opposition to all good sense and truth, by the "Looker-on, and Snap, &c." It may truly be said from the extravagance of their language, that one might expect every intelligent and impartial man would do them justice. The public, however, are not always impartial and just, but too often inclined to pronounce in favour of those who trumpet those sonorous words, humanity, philanthropy, &c.

I therefore took it upon me to defend the cause of truth, but I had reckoned without my host. I was ignorant of the principles of my adversaries, I was then unaware that fairness and integrity formed no part in their cause. I sent a reply to "Looker-on," which was advertised in the Lancet for insertion the following week, but I suppose in the meantime the "Looker-on" had been consulted, and instead of my letter, appeared an announcement diametrically contradicting that of the previous week, by stating that it would not appear in that Journal.

I am informed it is not the first time such means have been employed, and it is unnecessary for me to comment upon them. The public will be their judges, if you will have the goodness to insert in your valuable Journal a copy of the letter which has been refused by the Editor of the Lancet; I would have given it literally, but as I have before said, I was ignorant of the principles of my adversaries, and neglected to preserve a copy, the sense, however, which I give from memory, is unaltered.

To the Editor of the Lancet.

"Ne sutor ultra crepidam."

SIR,—In addressing you on a subject which has lately occupied a conspicuous place in the columns of your Journal, permit me to assure you that I am not only perfectly disinterested on the subject I defend, but a stranger in the country which has given birth to opinions so diametrically opposed to each other. I read attentively from one end to the other the lengthy epistle of the "Looker-on," and my first impression was "sunt verba et voces;" on a second reading, I concluded not only that the "Looker-on," whoever he may be, is entirely ignorant of the treatment of mental diseases, but that he has never had any insane persons under his care; and I venture to assert that which I shall prove in proper time and place, that he is acting the part of the cobbler, who thought the leg extremely ill made on being asked his opinion as to the form of the boot. I have so great an antipathy to discussions unfairly conducted—I am so decided an enemy to contests in which one of the adversaries treacherously conceals himself behind a curtain, that on the one hand I am induced to speak to him with severity, but yet with justice, whilst on the other I feel compelled to take up the cause of two experienced and estimable men,* and to become the echo of that one and only opinion which must prevail in the treatment of mental disease. My peculiar position permits me fearlessly to declare my opinions in opposition to those of the "Looker-on," who is unable to draw on me the animadversion of a public always greedy for the "beau ideal," and always the dupe of those who, in their comfortable mansions, seated by a good fire, and after a generous dinner, accompanied by copious libations of the "wine that cheereth," set themselves up as defenders of suffering humanity. Nothing is more easy to a writer unacquainted

* The letter of "Looker-on," was an attack on the Nottingham Report, by Dr. Blake and Mr. Powell.

with his subject than to mislead on words: the "Looker-on" possesses the organ qualifying for this task in an extraordinary degree of development. I am not aware to what degree my own cranium is furnished with such protuberance, but however that may be, I have long since learned to neutralize the influence of this organic tendency, by going straight to facts, and by addressing myself immediately to the men or things I attack, that is to say, I am not possessed of that courage which would lead me to conceal myself by an anonymous name for the purpose of making myself more formidable.

It is a general opinion in my country, and possibly is the same in England, that one secret opponent is more to be feared than ten enemies face to face, or, to make use of an allegory very applicable in this case, the serpent treacherously veiled beneath the leaves is more to be feared than the lion who shows his fine though formidable teeth. In entering on my subject, I would first place it in a fair and just position. I shall be concise, for I shall certainly not commence a discussion without proof that my time will not be thrown away. The subject is undoubtedly beyond the reach of ordinary understanding and experience. I may, if hastily judged, be accused of presumption, but it should be understood I will leave the "Looker-on" no door of escape. He must give his name. He must take up the glove I throw down, and come fairly and loyally into the arena. He must bring forward arguments capable of proof, otherwise I should be compromising our noble profession. I should be degrading myself in my own eyes if I could descend to the ground with one who has not the honesty to avow his own name.

One more paragraph, Sir, and I finish a letter which must only be considered as preliminary, and if the "Looker-on" is really a man who has a proper sense of his own dignity, and the importance of the cause he professes to advocate, he will appreciate my motive in endeavouring to lead him to conduct his argument scientifically, and prevent my having the power to apply to him "critiquer est aisé mais juger est difficile." Every man is not an author, and there are many enlightened members of the medical profession, who are unable clearly to define their ideas on paper, and sometimes they express that which is very unlike what they intend to convey, but with me and with every honest man "le sentiment fait tout," and I care little as to the manner in which it is expressed, still more in a doubtful case. I would adopt the best sense:—thus whether Dr. Blake and Mr. Powell have given their opinion clearly or not, I do not trouble myself to decide, and should never think of amusing your readers with two columns of words on a phrase more or less equivocal.

This unfortunate phrase in the Nottingham Report I read, and I understood or wished to understand that these gentlemen were of opinion that *restraint may be useful and must be necessary in certain cases of insanity, but that the physician ought always to use it with discretion.* This last phrase, Sir, is the burden of the "Looker-on's" letter, while at the same time it represents the actual state of the question relative to the treatment of mental disease.

Moral and physical restraint ought to be in the hands of the enlightened practitioner what poisons and powerful medicaments are with the experienced physician, and what fire and steel are in the hands of the skilful surgeon, "voila ma thèse"—and I do not fear to defend it victoriously against the "Looker-on" upon the above-mentioned conditions. If he has been led to believe that restraint may be abandoned in all cases, he only requires to be undeceived, and in conclusion I repeat I must have a name and not a "Looker-on"—facts and not "verba et voces"—a man of science, and not a "sutor ultra crepidam."

I have the honour to be, Sir,

Your obedient Servant,

CROMMELINCK, M.D.

One of the Editors of Annales de Medecine Legale, d'Hygiene Publique et Privée, et de Maladies Mentales.

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MEDICO-CHIRURGICAL REVIEW,

No. LXXII. APRIL 1, 1842,

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THE

Medico-Chirurgical Review.

No. LXXII.

[No. 32 OF A DECENNIAL SERIES.]

JANUARY 1, TO APRIL 1, 1842.

THIRD ANNUAL REPORT OF THE REGISTRAR-GENERAL OF BIRTHS, DEATHS, AND MARRIAGES, IN ENGLAND, WITH APPENDICES. Presented to both Houses of Parliament by Command of Her Majesty. London, 1841.

THESE Reports are so calculated to do good service to medicine, that we have done, and shall do our best for their dissemination. The body of facts that they contain must ultimately be of eminent utility. Nor is their application limited to a barren system of statistics, interesting to few and affecting the well-being of none. They bear upon the public health and contain the data for legislation in regard to it. They merit the close attention of medical men, not only as such, but as citizens.

The volume opens with a Report from the Registrar-General himself to Lord Normanby, containing a general abstract of the Number of Births, Deaths, and Marriages registered during the year ending June 30, 1840.

The following statement will show the numbers registered in the year ending June 30, 1840, compared with those of the preceding years:—

	1839-40.	1838-39.	1837-38.
Births	501,589	480,540	399,712
Deaths . . .	350,101	331,007	335,956
Marriages . .	124,329	121,083	111,481

There is thus an increase in the number of Births registered in the year ending June 30, 1840, over those in 1838-9, of 21,049; over those in 1837-8, of 101,877:

In the number of Deaths registered in the year ending June 30, 1840, over those in 1838-9, of 19,094; over those in 1837-8, of 14,145:

In the number of Marriages registered in the year ending June 30, 1840, over those in 1838-9, of 3,246; over those in 1837-8, of 12,848.

The increase in the number of registered Births results from a continuance of that successful operation of the new law, which began to appear after the former half of the first year of registration.

In each of the last three years the proportion of Male and Female Births has been very nearly the same.

The Registrar-General remarks:—

"The increase of deaths compared with those of the two preceding years is less than it appears to be. It must be remembered that the *first* year's regis-

tration could not comprise the deaths of the whole year, which, including those registered subsequently, amounted to 338,060. The real increase, therefore, over the registered deaths which *occurred* in the year 1837-8, is 11,441. It must also be borne in mind that the population of England and Wales, was shewn by the Censuses of 1821 and 1831, to have increased from 1821 to 1831 at the rate of 16 per cent.; and if it be assumed (as is probable) that this rate of increase has continued to the present time, the population in the years 1838-9 and 1839-40 will probably have increased to the amount of from 230,000 to 240,000 yearly. If the lowest of these numbers be taken, and the mortality be estimated at the lowest rate consistent with probability, namely, one in 50, there will in each of these years, at the same rate of mortality, have been at least 4,400 more deaths than in the year preceding. This number, therefore (being the probable increase at the *same* rate of mortality) must be deducted; and the remaining numbers, which indicate *increased* mortality, will, for the year 1839-40 as compared with 1837-8, be about 7000; compared with 1838-9, about 14,700. Yet this increase is great; and inasmuch as there is reason to believe that it is not merely an *apparent* increase, arising, like that of births, from the improved efficiency of a registration which, at the commencement, was very defective (for the very efficient registration of deaths, even in the first year, left no such room for improvement), but that there has really been an increased mortality to that amount, a circumstance so serious demands attention and inquiry, with a view to ascertain the nature of the increase, and especially whether it has been sudden or progressive, general or local, and whether affecting equally or unequally all ages and both sexes." 4.

The proportion of male to female deaths in each of the three years has been nearly the same, as appears from the following numbers :—

	Males.	Females.
Year ending June 30, 1838	170,965	164,991
" " 1839	169,112	161,895
" " 1840	177,929	172,172

The increase has been principally in the deaths of children, for more than half the excess over the deaths of 1838-9, and more than three-fourths of the excess over those of 1837-8, consisted of the deaths of children under 5 years of age.

This increase of mortality has been confined to certain situations, others exhibiting a decrease.

Thus there has been a progressive decrease of mortality from 1837-8, in the metropolis and in Devonshire; and a progressive increase from 1837-8, in divisions 15, 18, 19, 20, 21 and 25, comprising the counties of Derby, Leicester, Northampton, Nottingham, Rutland and the northern parts of Lincolnshire; the counties of Chester, Salop, and Stafford except the mining parts of the two latter; Lancashire, south of Morecambe Bay, except Liverpool and Manchester; the West Riding of Yorkshire, except the northern parts thereof and Leeds; the City, Ainsty, and East Riding of York, Monmouthshire, Herefordshire, and Wales.

The counties in which there has been the greatest increase of mortality, compared with that of 1838-9, are Lancashire, Nottinghamshire, West Riding of Yorkshire, Leicestershire, Cheshire, Gloucestershire, Northumberland, Durham, Derbyshire, and North Wales, the combined increase of which alone amounts to 15,231, out of the total increase of 19,097.

The prevalence of such increased mortality in those counties which com-

prise the largest proportion of manufacturing population, naturally suggests that the cause may probably be found in circumstances to which the manufacturing classes have been peculiarly exposed. But a further examination shews that not only has the increase varied very much within those counties, but that there has even been a decreased mortality in some of those districts which are peculiarly the seats of manufacture. Such has been the case in Manchester and Salford, Ashton, Oldham, Stockport and Leeds. Therefore, though manufacturing distress cannot be excluded from among the possible causes of increased mortality, care must be taken not to assign such mortality to this one cause in an undue degree.

It appears that this increased mortality is attributable chiefly to the prevalence of epidemics, especially of typhus and scarlet fever, and that the districts of Chorley, Leigh, Wigan, Burnley and Blackburn in Lancashire; Macclesfield, Dewsbury, Pontefract, Nottingham, Bingham, Ashby-de-la-Zouch, Bangor, and Beaumaris, are those in which these diseases have been most fatal.

The number of marriages would seem to have augmented in some slight degree. The counties in which early marriages prevail are "Hertford, Bedford, Cambridge, Huntingdon, Northampton, Leicester, and Essex." The same, with the addition of Wiltshire, are the eight counties in which, in the succeeding year, are the largest proportion of men married under the age of 21. The least *matrimonial* counties are Hampshire, Devonshire, Herefordshire, Shropshire, East and North Riding of Yorkshire, Durham, Cumberland, and Westmoreland.

From the writing *test* on marriage, the counties at the minimum and maximum of the educational scale would appear to retain their respective positions—the Metropolis and Cumberland standing at the head, Bedford and Monmouth at the bottom of the list.

An analysis of 10,019 marriages makes the average age of marrying in men 27.4 years, and in women 25 5 years.

A Table shews the proportion of deaths at different ages out of 1,000 registered deaths for each division and for the whole of England and Wales.

The deaths of children (taking the mean of both sexes) under one year of age, which everywhere constitute so large a portion of the whole mortality, sometimes exceeding even a fourth, appear to have been comparatively most numerous in the mining districts of Staffordshire and Shropshire; the south of Lincolnshire, Huntingdonshire, and Cambridgeshire; the manufacturing parts of Lancashire and Yorkshire; in Manchester, Liverpool, and Leeds; in Norfolk and Suffolk; and in the division comprising the north of Lincolnshire, Rutland, Derbyshire, Nottinghamshire, Leicestershire, and Northamptonshire; in all which divisions the proportion has ranged from 238 to 293. In Birmingham the proportion has been a little less, and much less in the Metropolis. The smallest proportion of deaths under that age has been in Devonshire, Dorsetshire, Wiltshire, Bedfordshire, Lancashire north of Morecambe Bay, Westmoreland, Cumberland, Northumberland, and Durham (excepting the mining parts of each); the North Riding of Yorkshire; Herefordshire, Monmouthshire, and Wales; in all of which the number has ranged from 168 to 186.

These results have been most similar to those of the preceding year for

the whole of England and Wales; for the Metropolis, Liverpool, Leeds, Dorsetshire, and Wiltshire; the district comprising the southern part of Lincolnshire, with Huntingdonshire and Cambridgeshire; the district comprising the remaining part of Lincolnshire, with the counties of Rutland, Nottingham, Derby, Leicester, and Northampton; the mining parts of Northumberland and Durham; the northern counties; and for Herefordshire, Monmouthshire, and Wales. The principal differences elicited by comparison have been in Birmingham, Devonshire, Cornwall, Norfolk, and Suffolk, Staffordshire, Shropshire (excepting the mining parts), and Cheshire and Lancashire (except Liverpool and Manchester) south of Morecambe Bay.

The proportion of deaths at advanced ages has been greatest in Devonshire, Dorsetshire, Wiltshire, Cornwall, in the counties north of Yorkshire, and in Norfolk and Suffolk. It has been least in Liverpool, Manchester, Leeds, Birmingham, and the mining districts of Staffordshire, and Shropshire.

Such is the substance of the Report of the Registrar-General. The Tables on which it is founded follow, and these are succeeded by an Appendix on the causes of death in England and Wales, by Mr. Farr.

ON THE CAUSES OF DEATH IN ENGLAND AND WALES.

The deaths in the year 1839, were not so numerous by 3,550 as those in 1838, but, in consequence of the better registration, the number of cases in which the causes were specified scarcely differed in the two years.

In 1838 the causes of 330,559 deaths were stated.
1839 " 330,497 "

The mortality was lower than in 1838, the diminution being 2.4 per cent. among males, and 2.6 per cent. among females, or exactly 2½ per cent. in the two sexes. The Winter of 1838 was extremely cold, the mean temperature of January being eight degrees, and that of February six degrees below that of the corresponding months in 1839.

The number of deaths from the class of *epidemic, endemic, and contagious diseases*, was 65,343; and the mean rate of mortality per 1,000 by the class was 4.25; in 1838 it was 4.52. The decrease was in small-pox and typhus, 16,268 persons having died of small-pox in 1838, and 9,131 in 1839; 18,775 of typhus in 1838, and 15,666 in 1839. On the other hand, 6,514 children died of measles, and 5,802 of scarlatina, in 1838; while 10,937 died of measles, and 10,325 of scarlatina, in 1839. Hooping-cough declined. Croup, thrush, diarrhœa, dysentery, cholera, influenza, and erysipelas remained stationary; none of them assumed the epidemic form. Ague rose from 44 to 95. In 1838, 16 males and 8 females died of hydrophobia; in 1839, 11 males and 4 females perished in the same way. Out of a population of 100,000 of each sex, 432 males and 418 females died of the epidemic class of diseases; but when the comparison is instituted between the deaths alone, the proportions are reversed; in 100,000 deaths of males 19,368, and in 100,000 deaths of females, 20,189 were from the same class of diseases.

Violent Deaths.—On this head, Mr. Farr has collected a great deal of curious information.

It appears that 12,055 deaths were referred to "external causes or violence" in 1838, and 11,980 were classed under the same head in 1839. The number of suicides was less in 1839 than in 1838; but the proportions at different ages, in different parts of the country, and in the seasons of the year, remained unchanged.

The tendency to commit suicide appears to increase up to the age of 60, and to be then more than three times as great as at the age of 25.

Exclusive of 2,001 deaths by suicide, 22,034 deaths were referred to external causes in the two years 1838–9; and it will be recollected that many cases of lock-jaw, erysipelas, mortification, hernia, and other diseases, are the results of injuries and of accidental violence.

The mortality from violence ranges from 509 to 1,015 in 1,000,000, and it is highest in the mining and manufacturing, lowest in the agricultural districts. The metropolis occupies an intermediate place.

Out of a population of 1,000 males in *England and Wales*, 1 .064 died a violent death in 1838; and 1 .053 in 1839: or, without decimals, 1,064 in 1,000,000 males died violent deaths in 1838.

In the northern counties 16 in 10,000 *males* die violent deaths annually; in Staffordshire, Warwickshire, and the other western counties, 14; in Lancashire and Cheshire, 13; in Cornwall and the other south-western counties, 11; in the metropolis, 8; in Essex, Suffolk, and Norfolk, 7. The deaths of *females* by violence are most numerous in Cheshire, Lancashire, the western counties, and Yorkshire, where they are employed in factories, and are exposed to accidents by machinery. In Kent, and the other south-eastern counties, 3 females in 10,000 died violent deaths; in Lancashire and Cheshire 5 in 10,000 annually.

The mortality of males from violent deaths was to that of females as 26 to 10; the tendency to suicide was as 23 to 10, or nearly in the same proportion.

Two-thirds of the males were aged 20 and upwards, while less than half of the females were of that age. Under 20 the number of males was 1,311, the females 853; at the age of 20 and upwards the males were 2,650, the females 705. Nearly half (5315) of the total violent deaths in the country happen to men above 20 years of age; 44 per cent. are 20 and under 60: so that, exclusive of suicide, and the deaths at sea, 4367 men in the prime of life are cut off every year in England by injuries and accidents of various kinds.

Of 162 ascertained suicides, of the age of 20 and upwards, whose occupations were stated, 18 were labourers, 10 tailors, 8 shoemakers, 6 seamen (1 of the 6 was a commodore, 2 captains), 5 licensed victuallers, 5 servants, 4 merchants, 4 coachmen, 4 bakers, 4 paupers, 3 medical men, 3 officers or soldiers, 3 clerks, 3 engravers, 3 cheesemongers, 3 weavers, 3 smiths, 3 masons, plasterers, or house painters, 3 gardeners, 2 attorneys, 2 watchmen, 2 beadles, 2 printers, 2 moulders, 2 saddlers, 2 tobacconists, 2 shopmen; and there was *one* of each of the following;—sculptor, artist, teacher of music, translator of languages, architect, bookseller, copper-plate printer, colourer of prints, book-keeper, corn-dealer,

cattle-dealer, coal-dealer, farrier, coach proprietor (formerly), horse-keeper, cooper, carpenter, painter and glazier, cabinet-maker, coach-maker, coach-plater, chair-maker, cane-worker, pencil-maker, pianoforte-maker, gun-maker, pocketbook-maker, comb-maker, parchment-maker, boiler-maker, brass-founder, brass-finisher, gold-refiner, jeweller, water-gilder, chimney-mender, dyer, grocer, green-grocer, currier, dresser of Spanish leather, hair-dresser, hemp-dresser, lodging-house keeper, licensed hawker, milkman, porter, patrol, waiter, potboy, dealer in old clothes. The professions of 8 suicides were not stated; 4 were registered "gentlemen."

Of 508 men, aged 20 and upwards, who died by other violent deaths, or by homicide, and whose occupations were stated, 143 were labourers, 86 mariners, watermen, fishermen, or barge carters, 25 masons, builders, plasterers, house-painters, or slaters, 11 carpenters, 4 shipwrights, 3 sawyers, 4 painters, glaziers, and plumbers, 21 engineers, stokers, or firemen, 15 servants, 13 coachmen, cabmen, or postboys, 10 paupers, 7 shoemakers, 7 pensioners, 6 bakers, 6 weavers, 5 smiths, 5 tailors, 5 porters, 4 livery stable-keepers, 3 soldiers, 3 policemen or watchmen, 3 gardeners, 3 custom-house or excise officers, 3 coal-dealers and whippers, 3 excavators, 3 butchers, 3 musicians, 2 merchants, 2 stockbrokers, 2 clerks, 2 fishmongers, 2 farriers, 2 ostlers, 2 messengers, 2 mechanics, 2 cullers, 2 coopers, 2 tide-waiters, 2 schoolmasters, 2 cordwainers. Of no other occupation was there more than one. The occupations of 32 were not specified; 7 were were registered as "gentlemen."

Nearly 12 men in 10,000 (exclusive of sailors and soldiers), aged 20 years and upwards, died violent deaths in the metropolis; and from the best estimate that can be made from the verdicts recorded in the registers, 5 of the 12 were suicides. *One* in 2,000 men committed suicide in the year.

The tendency to suicide is least among persons who carry on occupations out of doors; and greatest among artisans who are weakly from birth, are confined in-doors, have their rest disturbed, or have little muscular exercise.

Taking the numbers as they stand, 1 in 9,332 masons, carpenters, and butchers, committed suicide in the year; and 1 in 1,669 tailors, shoemakers, and bakers: the tendency to suicide in the first class was as 1.0 to 5.6 in the second. The corrected mortality from suicide was 1.33 to 10,000 in the first class, and 7.43 to 10,000 in the second class.

A similar result is obtained by comparing the suicides in the class of labourers with those among artisans and tradespeople; for the tendency to suicide is twice as great among artisans as it is among labourers.

The proportion of suicides in the miscellaneous class, designated by Mr. Rickman, "*capitalists, bankers, professional, and other educated men*," is very near the average.

Mr. Farr adverts to the opinion that the increase of education leads to an increase of suicide. He observes:—

"In England, suicide is, in fact, most frequent in the metropolis, the south-eastern counties, and the northern counties, where the greatest number can write; and it is the least frequent in Wales. The intermediate counties range from 62 to 48, who could write, in 100; the suicides from 4.5 to 6.8 in 100,000.

There is a general but no constant relation between the state of education thus tested, and the commission of suicide. It may be admitted that there is some relation between the development of the intellect and self-destruction; but the connexion must be in a great measure indirect and accidental. In opposition to the arguments derived from agricultural districts, and labourers in towns, there is the fact that suicide is more frequent among several classes of artisans, than it is among better educated people. If the progress of civilization is to be charged with the increase of suicide, we must therefore understand by it the increase of tailors, shoemakers, the small trades, the mechanical occupations, and the incidental evils to which they are exposed, rather than the advancement of truth, science, literature, and the fine arts."

This opinion of Mr. Farr's has met with criticism, we think, rather unfairly. His facts, so far as they go, prove his case. If suicide be not most rife in the educated classes, it is surely unjust to lay the blame of it on education. That the modern social system gives birth to it may be true, but probably that is on other grounds than on those of mental cultivation. It is to the inequality of conditions in life, to the near and painful contrast of poverty and riches, to vice and to intemperance, with their calamitous consequences to the moral nature and physical well-being of men, that we must look for the prevalence of suicide. And when, in wealthy countries like our own, there shall be no squalid misery, nor sudden descents from affluence to want, when the streets shall not be crowded with the victims of seduction, and the gin-palaces shall be empty of the votaries of excess, when improvidence shall cease to ruin, and penury shall be comfort, then, and not before, whatever be the education of the country, suicide will be but rarely seen.

Mr. Farr goes on to remark:—

"Intemperance and suicide, as well as other violent deaths, are found associated in the registers; and the professions peculiarly addicted to drunkenness have more than the due proportion of suicides. Drunkenness leads to this; but drunkenness is a sort of indirect suicide, and both are tendencies of the mind, indulged often from the same motives, and promoted by similar causes; for in drunkenness the wretched find not only the gratification of an appetite, but the suspension of natural consciousness—in death they seek its cessation.

There is no reason to believe that suicide has been latterly increasing in England. The fact, nevertheless, that 1000 persons are ascertained to commit suicide yearly, and that nearly as many more are returned as drowned, &c., in which the verdicts do not state whether death was accidental or suicidal, is sufficient to arrest the attention on all the relations of the question.

Some plan for discontinuing, by common consent, the detailed, dramatic tales of suicide, murder and bloodshed in the newspapers is well worthy the attention of their editors. No fact is better established in science than that suicide (and murder may perhaps be added) is often committed from imitation. A single paragraph may suggest suicide to twenty persons; some particular, chance, but apt expressions, seizes the imagination, and the disposition to repeat the act, in a moment of morbid excitement, proves irresistible. Do the advantages of publicity counterbalance the evils attendant on one such death? Why should cases of suicide be recorded at length in the public papers, any more than cases of fever? It would be out of place to refer here to the moral or strictly medical treatment; but it may be remarked, that the artisans most prone to suicide are subject to peculiar visceral congestions—that suicide is most common in unhealthy

towns—and that the influence of medicine on the mind, and on the unstable ungovernable impulses which are often the harbingers of suicide—is incontestable. To place the shoemaker, tailor, baker, or printer in the same favourable circumstances with respect to air and exercise as carpenters and masons would be impossible. But the workshops of all artisans admit of immense improvements in ventilation. Cleanliness is greatly neglected. Neither the men nor all the masters appear to be aware that the respiration of pure air is indispensable; that the body requires as much especial care as the tools, instruments, and machines; and that without it, neither the body nor the mind can be preserved in health and vigour. The new parks and public walks will afford the artisan an opportunity of refreshing his exhausted limbs and respiring in the fresh air; and the health and temper of the sedentary workman may be much ameliorated by affording facilities in towns for athletic exercises and simple games out of doors, which, while they bring the muscles into play, unbend, excite, and exhilarate the mind. Moral causes, and the regulation of the mind, have perhaps more influence on the educated classes; but all must derive benefit from out-door exercise."

The mortality of males, aged 20, from violent deaths, exclusively of suicide, was 6.77. As a general rule the suicides were most numerous in the trades least exposed to accidents; as if the mind, left unexcited by natural dangers, imagined and created causes of death. Three in 10,000 tailors, bakers, shoe-makers, and 9 in 10,000 masons, carpenters and butchers, were killed by accidents or violence—the reverse of the proportions in suicide. The degrees of danger which beset the different classes of the community in their occupations, are shewn by the following facts:

86 sailors, watermen, or fishermen, died violent deaths. The occupation of engineer is at present the most dangerous followed; 21 engineers, stokers, and firemen, were killed in one year in the metropolis, and that chiefly in the steam-vessels on the Thames.

Mr. Farr observes, that violent deaths may be considered under three points of view:—1st, With relation to the injury, which is the proximate cause of death; 2nd, The agents by which the injury is inflicted; 3rd, The circumstances which led to the death.

About 2454 persons are drowned every year in England and Wales, and it is computed that, in addition, about 1000 lives are annually lost by shipwreck, in sailing vessels only. The following table is not devoid of interest.

Table of the Violent Deaths in the Metropolis (1838–9), *Manchester, Salford, Liverpool, West Derby, Birmingham, Norfolk, Suffolk, and Mining Districts.*

Mechanical Injury.	Gunshot Wounds	47
	Other Wounds with loss of blood	132
	Fractures and Contusions	1,644
	Total	1,823

Chemical Injury.	Lightning	5
	Explosions	42
	Burning	962
	Scalding	201
	Poisoning, by Opium	31
	" Arsenic	17
	" Medicines improperly given	134
	" Other substances, & those not stated	
	Total	1,392
Suspension of Respiration (Asphyxia.)	Drowning	1,044
	Hanging and Strangling	253
	Inhaling Mephitic Gases	15
	Suffocation	144
	Total	1,456
	Other Causes, and not specified	297
	Grand Total	4,968

The violent deaths of men whose occupations are carried on above the level of the earth are most generally the effect of falls. Thus in the metropolis, 15 of 19 violent deaths among masons, plasterers, and slaters; 6 in 11 carpenters; 2 in 2 deaths of painters and glaziers, were caused by falls; also 9 in 14 servants. Of 8 violent deaths among coachmen and postboys, 6 were from falls. Of 100 labourers, 22 died by falls, 18 by drowning, 12 by being run over, and 22 by being crushed. Miners and persons who work much below the level of the earth, are liable to be killed by the fall of heavy substances; 118 in 870 violent deaths which occurred in the mining districts, were caused in this way. Miners are sometimes killed by falling into pits; 12 were killed in a coal-pit at Clutton, the rope having been intentionally cut. Of 47 violent deaths among sailors and watermen, 7 were by falls, and 33 by drowning; the latter being of course almost always the result of *falls* into the water. Burns, from their clothes taking fire, are the most common causes of violent deaths in females; 77 males and 159 females (two-fifths of the females who died by violence), died of burns in the metropolis.

Drowning.—This is probably the most common mode of death in suicide; but the inquests in the metropolis left it undetermined whether the drowning was voluntary in 191 cases. 21 males, and 8 females, were stated to have committed suicide by drowning; 67 males, and 24 females, by hanging; 28 males, and 17 females, by poisoning; 6 males, and 4 females, by throwing themselves from windows and heights; 42 males, and 5 females, by wounds; 10 males, and no females by gun-shot wounds. Of 3,146 cases of violent death, 2,371 were pronounced accidental; 388 were as-

cribed to human agency; and, in 387 cases, the verdicts did not state whether the death was the result of suicide, accident, or murder.

Are violent deaths on the increase?—Something like an approximation to an answer may be got from the London Bills of Mortality from the middle of the 17th century.

In the first period (1647—1760) the annual rate of mortality was about 7, in the second 5-2, in the third 5, in the fourth 3, per cent.; whence it may be deduced that, in the 17th century 6-8 in 100,000, in the 18th century 5-4, in the 19th century 5, died violent deaths. Out of a given amount of population the deaths by drowning increased in the latter half of the 18th century; the deaths by scalds and burns were twice as great in 1800—1830 as in the 17th century. The tendency to suicide remained nearly stationary; so did death by poisoning. All the deaths by personal violence rapidly decreased. In a population of 100,000, according to these accounts, about 23 were killed, 4-6 murdered, in the 17th century; in the 19th century about 13 were "killed," and 0-5 were murdered. The chance of being murdered diminished nine-fold. The executions were more frequent in the latter half than in the beginning of the 18th century; compared with the population within the Bills of Mortality, they were not, however, half so frequent in the first 30 years of the 19th century as in the latter half of the 18th century, when about 7 were executed annually to a population of 10,000. Relatively to the murders the number of executions increased.

From the Swedish, Prussian, and French returns, it appears that the mortality by violent deaths is greater in England, where it exceeds that of any country not devastated by civil war. The following suggestions of Mr. Farr deserve attentive consideration.

"Deaths in ships, manufactures, and mines, are indiscriminately called 'accidental;' yet it is well known that fewer lives are lost by shipwreck in Her Majesty's service than in emigrant vessels; that less accidents happen in one factory than in another; and that the men are crushed, burnt, or blown to pieces, much less frequently in the coal-mines of certain proprietors, than in those of others. Many 'accidental deaths' are, therefore, *indirectly caused* by human agency. Many of the accidents happen from ignorance and carelessness. The knowledge of the accidents to which people are exposed in different occupations may put them more on their guard against danger. Men who work at a considerable elevation from the earth will learn caution from the number of deaths by falls, and will, perhaps, indulge less in intoxicating drinks (which are the cause of so many accidents), or in any thing that makes the step or head unsteady. In the metropolis, in two years, 142 males and 285 females died by burns! This is to be ascribed to the greater combustibility of the dresses of females: their caps and gowns frequently take fire. Many children are burnt from the same cause. It deserves the consideration of manufacturers, whether cotton and linen may not be made, by a chemical solution, as little liable to take fire as textures of wool. It may render parents and servants more careful to state that many children, under five years of age, are suffocated by drinking boiling water out of the tea-kettle—are burnt to death—or disfigured for life—from being left alone at the fire without a guard; and that many children are poisoned by drinking medicines, or drugs left within their reach. 500 or 600 persons are ascertained to [illegible] by poison every year in England; besides the cases of poisoning which are [illegible]er detected. These are not like the other violent deaths. The poisons are of

very little use except in the hands of medical men; and may, without any disadvantage, be placed beyond the reach of a majority of persons by whom they are employed for self-destruction, or murder. Arsenic, mixed with food, cannot be tasted, and is fatal in very small quantities; yet it is obtained with almost as much facility as sugar, by servant-girls, in the small chemists' shops. About 100 fatal cases of poisoning, by arsenic, are detected every year. It is generally asked for 'to kill rats;' but it is questionable whether arsenic kills more rats than human beings: and, if the destruction of rats is a matter of so much importance, it may be effected in other ways. The suicide, or murderer, would, it is true, often resort to other means, if poison were inaccessible; but he would not always do so; and many of the 'accidental deaths,' which now occur by taking poison by mistake, would be prevented. The taste of opium cannot easily be disguised: hence it is less used by the murderer than the suicide. Small quantities of opium are fatal to infants: and mothers and nurses frequently give children over-doses of laudanum, or elixir, and quack medicines, in which it is mixed up in uncertain quantities. It is admitted by those who have paid most attention to this subject, that the system of pharmacy in England, and the sale of poisons, requires revision. The sale of prussic acid, opium, nux vomica, oxalic acid, corrosive sublimate, and arsenic, to the public, may be prohibited, or be permitted only by medical prescription. The master's certificate may be required for sugar of lead, and poisonous substances employed in the arts and manufactures. The immense number of deaths by drowning (about 2,400 annually), arises, in part, from the neglect of the art of swimming, even by persons who are frequently on deep waters.

The fatal effects (either direct or remote) of inhaling different kinds of mephitic gases, such as sulphuretted hydrogen, carburetted hydrogen, carbonic acid, and nitrogen, given off from cess-pools, lime-kilns, brick-kilns, crowded assemblies in ill-ventilated rooms, and graves, are tolerably well known; nevertheless, violent deaths still occur from them in the metropolis. A grave-digger and a fishmonger it has been already stated perished in one of the London churchyards. The carburetted hydrogen and carbonic acid are rarely dense enough to prove immediately fatal in coal mines; but in small doses they are slow poisons, —they give rise to diseases: and admitting fully the power of Davy's admirable invention, the safety lamp, to enable miners to breathe carburetted hydrogen without producing explosion, no choice can exist between the employment of this lamp, and an efficient system of mechanical ventilation, by which all the insalubrious gases may be removed, and the men may be supplied in the remotest parts of the mines with pure air."

In this country, where human life is estimated at its maximum, and where humanity characterises public opinion so strongly, it is only requisite to state the facts collected by Mr. Farr, in order to awake attention to them. Unquestionably many "accidents" are negligence, and culpable negligence on the part of employers or public bodies. This is a case for the interference of the legislature, which has held back too much in such matters in this country.

Murders.

The murders which have been registered and noted in the abstracts, on the authority of the verdicts of coroners' juries, amounted in two years to 156 (males 103, females 53.) The proportion to the population is 5 in a million annually, or 1 in 200,000. Of 148 persons murdered, whose ages were abstracted, 78 were aged 20 and upwards. If we assume that half of the population is above 20 years of age, about 5 .3 in a million adults were murdered annually. The number of cases in which verdicts of mur-

der were brought in, was above the average in the south-western counties, in Lancashire and Cheshire, the south-eastern counties, the north midland counties, and the metropolis. If infants be excluded, the greatest proportion of murders occurred in Lancashire and Cheshire, the smallest proportion in Essex, Suffolk, and Norfolk.

Lightning.

25 persons (18 males and 7 females) were killed by lightning in 1838, and 18 (14 males and 4 females) in 1839. In the last two quarters of 1837, *fifteen*; of 1838, *fourteen*; and of 1839, only *two* deaths were caused by lightning. In the two years (1838–9) 1 of the deaths occured in May, 26 in June, 8 in July, 4 in August, 2 in September, and 2 in November. *Six* was the greatest number killed in one storm, which happened on the 18th of June, 1839; and it is a curious coincidence that *four* persons were struck dead by lightning on the 18th June, 1838.

The danger of being struck by lightning is comparatively not very great; for only 22 are killed by this cause in the year, while 29 die other violent deaths *daily*, exclusive of suicides. Of a million men at the age when they are most exposed (30—50), not more than 4 were struck dead; while the proportion of women was less (1.5). During the thunderstorms, however, the danger of death by lightning is probably twice as great as the danger at that time from all the other causes of violent death put together. Franklin wrote popular directions as to the best means of protection in storms, but it appears from M. Arago's interesting paper, that natural philosophers are not agreed altogether in admitting their propriety. Unless there is something in the structure or dress of men which marks them out in a special manner as victims of lightning, it may be inferred from the facts in the registers that people are safest in-doors when it lightens; and that women and children are placed in the circumstances where there is least danger.

Sudden Death.

Mr. Farr considers, under this head, cases of sudden death in which inquests were held, but the cause of death was not ascertained. Sudden deaths of this class are more frequent among males than females. The ratio is nearly as 16 to 10. About 16 happen in Winter to 10 in Summer. Mr. Farr gives an analysis of 424 verdicts. The cause of nearly 2 in 3 sudden deaths is not stated in the verdicts. Apoplexy was said to be the cause of 53 deaths, diseases of the heart and arteries of 27, exclusive of 10 ascribed to rupture of a bloodvessel. Fits and convulsions come next in the order of frequency. Several of the sudden deaths happened in the course of chronic diseases, but the cases of consumption occurred principally among criminals in the prisons, and were not sudden deaths. In 1087 other cases which occurred in the metropolis (1839), the deaths were ascribed to apoplexy 84 times, convulsions 17 times, epilepsy 10 times, heart diseases 36 times, and rupture of a blood-vessel 36 times. The verdicts, "visitation of God," or "natural death," were returned 632 times in the 1087 inquests, not comprising violent deaths.

Mr. Farr inquires "what are sudden deaths?" and does not seem able

to define them very satisfactorily. Certain it is that they are not so commonly apoplexy as is imagined.

M. Devergie, who is Medical Director of the *Morgue*, to which all bodies found dead in Paris are conveyed, and who has had better opportunities for investigating the subject than any other person, refers sudden death, after Bichat, to the three principal organs—the lungs, brain, and heart. In death by the lungs, the circulation is stopped primarily in those organs; the pulmonary artery, the right cavities of the heart, and the *venæ cavæ* are gorged with blood. The pulmonary veins, the left cavities of the heart, and the aorta are empty, or contain an infinitely small portion of blood. In death by the brain (apoplexy), the respiration is embarrassed, the lungs congested, and then the heart ceases to beat; the meningeal veins are gorged with blood; the lungs contain a considerable quantity; there is blood in both sides of the heart, but most in the right cavities. If death begin at the heart (*syncope*, fainting), its action ceasing all at once, the cavities are full on both sides, not as they are in the state of accumulation, but as in the ordinary state of the circulation; there is blood in the arteries and veins. Neither the lungs nor the brain are congested. This is a brief summary of the results of M. Devergie's researches. The term congestion is vague, and by no means unobjectionable; but it is often all that is found in violent death by asphyxia, and it has something like a specific meaning in M. Devergie's essay; who reports several cases at length, which medical witnesses will do well to consult.

The following is a summary of 40 cases of death, carefully examined by the Medical Director of the *Morgue*:—

Apoplexy, with a clot in the annular protuberance, 1; meningeal apoplexy, 3; serous apoplexy and pulmonary congestion, 2; congestion of the brain and spinal marrow, 3; pulmonary congestion, 12; pulmonary and cerebral congestion, 12; hæmatemesis, 2; syncope, 3; rupture of the heart, 1; rupture of the pulmonary artery, 1.

Mr. Farr inquires into the proper business of a Coroner's Jury. It is provided in the Registration Act that "in EVERY CASE *in which an inquest shall be held* on any dead body, the *Jury shall* INQUIRE OF THE PARTICULARS HEREIN REQUIRED TO BE REGISTERED *concerning the death*, and the coroner shall inform the Registrar of the finding of the jury, and the Registrar shall make the entry accordingly." One of the particulars required to be registered is "the CAUSE of DEATH." Now this cannot be certainly determined without an examination of the body, and it is to be hoped that this will be more generally insisted on by Coroners than it has been. Mr. Farr observes:—

"It would be taking a narrow view to assume that the inquest is intended only to *detect* deaths by murder. About 35,000 inquests were held in the two years, 1838-9; when 156 murders were registered. There was but one verdict of murder to 224 inquests. According to the Criminal Returns, 121 offenders were tried for murder in 1838-9; of that number only 37 were convicted, and 15 were executed. The number of deaths by manslaughter is inconsiderable. The primary question in every inquest unquestionably is:—Was the death the result of homicide? And even this can only be satisfactorily answered by strictly complying with the provision of the Registration Act, and inquiring into the particulars of the actual cause of death. Exclusive of the use of the deodand in preventing accidents, however, the principal utility of the inquest is the secu-

rity which it affords the public mind; and its tendency to prevent crime, by convincing the evil-minded that murder cannot be committed with any chance of impunity. But inquests, in which the 'cause of death' is not inquired into, can neither inspire criminals with dread, nor the public with confidence. The most important part of the evidence of the inquest is omitted, when the 'cause of death' is not investigated. The expense of inquests, which is now not considerable, would be slightly augmented; but the value of the information, and the use of the inquiry, would be increased in an infinitely greater degree. The Legislature, moreover, has left the coroners no discretion upon this matter. The juries are bound by the Act to inquire into the particulars required by you; and the coroners are bound to supply the registrars with the results—comprising an intelligible statement of the 'cause of death,' so far as it can be ascertained. The inquests in England will, henceforward, be as efficient as similar inquiries in France or Germany; and be placed on a level with the present state of medical jurisprudence,—to contribute to that branch of science an immense number of new, well-authenticated, and instructive facts."

Nothing can be more just than this.

Mr. Farr dwells on the facility which drowning affords the purposes of the murderer. The individual is "found drowned," and that is all that can be said. The body is conveyed to some obscure pot-house for the jury to sit on it, and it is neither advertized nor very likely to be recognized. Mr. Farr recommends that some steps should be taken to remedy the defects in this part of our system of police. The bodies "found dead" should be conveyed to *one central place*, where they may lie until notice had been given to the coroners, and opportunities had been afforded for identifying them. Advertisements drawn up under the direction of the coroners, should be sent to the newspapers, and placards to the police offices, before the inquests were held; which would enable the parties concerned to identify the dead, and the juries to ascertain the causes of death, in compliance with the clause in the Registration Act.

Deaths in the London Hospitals.

Abstracts have been made of the causes of death in the London hospitals, namely—in the Charing Cross, St. George's, Middlesex, North London, Westminster, St. Bartholomew's, London, Guy's, St. Thomas's, Greenwich, the Dreadnought, the Fever Hospital, and the Small Pox Hospital. The number of persons who died in those hospitals within the year amounted to 2491, of whom 1729 were males, 762 females. Of 301 persons who died of erysipelas, 60 died in the hospitals. In many cases the erysipelas must have followed operations or accidents; and it will be observed that 390 of 1212 deaths by violence were registered in these institutions. 7 of 20 deaths from aneurism, 31 of 73 from hernia, 7 of 15 from diabetes, 10 of 27 from stone, 41 of 123 from diseases of the joints, &c., 7 of 21 from fistula, 4 of 7 from purpura, 51 of 368 from carcinoma, took place in the hospitals. Hospital relief is not obtained equally at all ages. Sick children remain at home under the care of their mothers; they would in general be refused admission at hospitals. The aged poor, with chronic maladies, go to the workhouses. Young persons without families, between the age of 15—30, often servants and immigrants from the country, resort in the greatest numbers to the hospitals, where 1 in 7 deaths at that age are registered.

Diseases of Towns and of the Open Country.

Mr. Farr gives an unfavourable view of the health of Towns,

Thus the density of the country districts was to that of the towns as 10 to 245, the mortality as 100 to 144. The mean duration of life, in the two classes of districts, differs nearly 17 years; it is in the proportion of 55 years (country), to 38 years (towns). The difference is greater than was given in the calculation founded on the facts observed in 1838: when the deaths in Bristol, Clifton, and Norwich were (by error) not subtracted from the deaths in the counties of Gloucestershire and Norfolk. The mortality in the town districts, however, declined in 1839, more than the mortality in the country districts. As the population increases faster in the town than in the country districts, the difference in the mortality was greater than it is represented to be by these numbers.

The diseases, chiefly incidental to childhood, are twice as fatal in the town districts as they are in the country.

The deaths, by several diseases of old age, were almost equally numerous in the towns and the country. Asthma is, however, an exception.

The tendency to consumption was increased 24 per cent.—to typhus 55 per cent. in the town districts; but as the absolute mortality from consumption is three times as great as from typhus in towns, and nearly four times (3.73) as great in the country, the excess of deaths by consumption, caused by the insalubrity of towns, is greater than the excess of deaths by typhus—a fact which has hitherto been overlooked. Thus, 24,094 deaths from consumption occurred in the country, 32,436 in the town districts; the excess amounted to 8,342 deaths; 6,402 deaths from typhus occurred in the country, 10,852 in the town districts; the excess amounted to 4,450 deaths. The difference is more correctly exhibited by a comparison of the mortality from the two diseases.

The facts show the propriety of the ordinary medical advice to place persons of a consumptive habit in a pure atmosphere; but they militate against sending them to reside in the continental towns, in many of which the mortality is as high as it is in Bethnal Green and Whitechapel. Paramenia (mismenstruation), though rarely fatal, is a very common disease, and one which greatly embarrasses the medical practitioner. The facts in the table point out the utility of the country watering-places to patients afflicted with the complaint in cities. The excess of deaths by childbirth in the town districts is striking. Out of nearly the same number of deliveries, 909 mothers died in the country, 1560 in the town districts.

We are glad to perceive that the mortality in the whole of the metropolis—but particularly in Whitechapel and the worst parts,—had decreased in 1839. The Weekly Tables, up to the middle of 1841, show also a progressive amelioration; which may be expected, *cæteris paribus*, to proceed much more rapidly, when the new streets and park shall be opened, and when the sewers, and streets, and the dwellings of the poor are placed in circumstances which will secure more cleanliness and a moderate supply of pure air. The causes of the excessive mortality of towns are well known, and it cannot be too frequently repeated, that they admit of removal to a great extent.

Mr. Farr goes on to remark that the mortality increases, *ceteris paribus*, as the density of the effluvial poison generated in cities, and not strictly as the density of the population. The indigence of the inhabitants, or an insufficiency of proper food—even when not carried to the extent of starvation or famine—has also a decided effect on the production of effluvial poisons, as well as on the tendency to diseases of every kind. Hence the mortality is not always greatest in the densest parts of cities.

This principle explains the facts that although the mortality is increased 44 per cent. by the present condition of the towns in England,—where the proportion of town population is greater than in any other country in Europe, except Belgium,—the mortality of the nation has been much below the average during the whole of the present century; and, up to the present day, the expectation of life remains higher in England than in the rest of Europe. The industry and intelligence that have created flourishing towns have ameliorated, though not so rapidly as they might have done, the sanitary condition of the people.

Diseases of different Parts of the Country.

The mean mortality differs in several respects from that which obtained in 1838; when the metropolis, with its dense population (27,000 to the square mile), stood first in the table, the mean annual mortality having been 2.800, while that of Lancashire and Cheshire (with a population of 700 to the square mile) was 2.567. In the year 1839, the mean mortality of the metropolis fell to 2.371 per cent., and that of Lancashire and Cheshire rose to 2.836.

The high mortality among the population of Lancashire and Cheshire, from diseases of the nervous, respiratory, and digestive organs, observed in 1838, was sustained in 1839; and the increase in the mortality was occasioned by measles, scarlatina, and whooping-cough; for 383 in 100,000 died of these diseases in 1839, and only 133 in 100,000 in 1838. The difference is 250, which will make 2,817 when added to 2,567,—the mortality in 1838. In the metropolis the diseases of the nervous system and the respiratory organs were less fatal; but the greatest diminution occurred in small-pox and typhus. Yorkshire, and the division which comprises Nottinghamshire and Derbyshire, underwent a change analogous to that noticed in Lancashire and Cheshire. The mortality declined in the other divisions; and, as has been before stated, the mortality of the kingdom was lower in 1839 than in 1838.

Influence of the Seasons.

The disturbing circumstances of privations, epidemics, &c. operated as little as can be conceived possible on the inhabitants of the metropolis, during the three and a half years ending in June, 1841.

It is found that the degree down to which the mean monthly temperature falls in December, January, or February, determines, to a great extent, the mortality of Winter.

The January of 1838 was the coldest month of the 3½ years: the mean temperature of the two cold months—January and February—was nearly the same in 1839-40; and the Winter of 1841 was anticipated by

the cold December of 1840, when the mean monthly temperature attained the minimum, and rose slowly through January and February.

The deaths registered in the seasons of the three years are compared below with the temperature expressed in degrees of the Fahrenheit and Centigrade thermometers. The number of deaths has been corrected, on the assumption that each period embraced 275 days.

	3 Winters.	3 Springs.	3 Summers.	3 Autumns.
	January, February, March.	April, May, June.	July, August, September.	October, November, December.
Deaths	39,764	35,128	33,677	36,684
	°	°	°	°
Temperature (Fahrenheit)..	39.8	53.8	61.0	44.6
„ (Centigrade)..	4.7	12.11	16.1	7.0

The causes of death which proved the most fatal in the cold months belong principally to the pulmonary class, and the cerebral diseases of the aged; those which proved most fatal in Summer belong to the diseases of the bowels; but in almost every class there were one or two diseases over the fatality of which temperature exercised a marked influence.

Of the diseases in the epidemic class, influenza and whooping-cough followed the same law as the pulmonary; cholera, dysentery, diarrhœa, and thrush,—as the abdominal affections.

Persons affected by the following diseases died in greatest numbers when the temperature was low. It has been already rendered probable that many cases arranged under apoplexy and sudden death, are the effects of congestions in the lungs—a sort of spontaneous asphyxia, the development of which appears to be favoured by a temperature below the freezing point of water.

Causes of Death.	Winter.	Spring.	Summer.	Autumn.
Apoplexy	801	627	626	695
Sudden Death	618	594	361	547
Paralysis	647	520	485	602
Insanity	73	45	35	42
Tetanus	23	11	15	19
Asthma	1733	642	344	1060
Bronchitis	495	307	191	347
Pneumonia	3326	2454	1827	3000
Pleurisy	70	62	39	51
Hydrothorax	272	183	136	206
Diseases of Heart	739	556	571	696
Rheumatism	124	113	99	117
Nephritis	19	17	14	19
Diabetes	19	12	7	15
Dropsy	1403	1286	1136	1457
Diseases of Child-bed	310	261	217	309
Phlegmon	9	2	3	1
Ulcer	23	16	9	13
Mortification	217	177	153	171
Old Age	3437	2609	2150	2814
Starvation	21	16	7	20
Violent Deaths	996	969	883	994

The range of temperature in this climate appears to have little effect upon some of the fatal diseases of infants and adults.

Causes of Death.	Winter.	Spring.	Summer.	Autumn.
Hydrocephalus	1370	1330	1348	1231
Convulsions	2414	2298	2532	2119
Consumption	5600	5778	5501	5148
Scrofula	72	64	72	54
Cancer	276	230	264	262

As the corresponding seasons of different years present fluctuations in the temperature, this should, and a table proves that it does, supply further 'ence of its influence.

The Autumn of 1840 was much colder than the Autumns of the two preceding years; the mortality of the diseases under the influence of temperature was raised in an equal degree.

	AUTUMN.		
	1838	1839	1840
Temperature { Mean . . .	° 45.2	° 45.6	° 42.9
Temperature { Lowest . .	29.8	32.0	21.2
Deaths from Diseases of the Respiratory Organs, exclusive of Consumption . .	1730	1769	2361
" Consumption	1729	1682	1737

"At what degree of cold," asks Mr. Farr, "does the mortality begin to rise? And how soon after the cold weather has set in is its effect experienced? The Weekly Tables of Mortality furnish replies to these questions. It will be recollected that the tables of the week comprise the *registered* deaths, about half of which must have *occurred*, when the rate of mortality was uniform in the week preceding.

Meteorologists have observed that the mean temperature of October represents very nearly the mean temperature of the year and the place; and the facts in the table show that the mortality rises progressively, as the mean temperature falls below the *mean temperature* of London (50°.5); the deaths in the week rising to 1000 and upwards when the *temperature* of night falls below the freezing point of water, and to 1200 when the *mean temperature* of day and night descends a degree or two lower than 32°.

The rise in the mortality is immediate; but the effects of the low temperature go on accumulating, and continue to be felt 30 or 40 days after the extremities of the cold have passed away. The cold destroys a certain number of persons rapidly, and in others occasions diseases which prove fatal in a month or six weeks. The relation of the temperature and mortality is distinctly shown in the next Table: where accidental irregularities are diminished by extending the number and the period of the observations. The practical lesson taught by these facts is obvious. A great number of the aged, and those afflicted with difficulty of breathing whether it arises from emphysema, chronic bronchitis, diseased heart, or impairment of the function of respiration, cannot resist cold sunk so low as 32°. The temperature of the atmosphere in which they sleep can never safely descend lower than 40°; for if the cold that freezes water in their chamber do not freeze their blood, it impedes respiration, and life ceases when the blood-heat has sunk a few degrees below the standard."

We are induced to insert the Table which follows, bearing out, as it fully does, the preceding observations.

The Temperature and Mean Weekly Deaths in the Metropolis, for periods of Four Weeks, from November 7th, 1840, to April 17th, 1841.

	November 7th—28th.	November 29th to December 26th.	December 27th to January 23rd.	January 24th to February 20th.	February 21st to March 20th.	March 21st to April 17th.
Temperature { Mean	° 46.3	° 35.8	° 34.2	° 37.0	° 46.0	° 48.5
Temperature { Lowest	33.0	21.0	15.0	23.0	34.0	37.0
Weekly Deaths	905	1,066	1,220	1,086	1,030	844
Age, 0—15	438	513	513	451	443	366
" 15—60	292	336	393	355	341	293
" 60— and upwards .	171	235	296	259	258	185
From Bronchitis . . .	6	18	24	24	19	15
" Pneumonia . . .	100	138	140	97	89	63
" Asthma	20	55	92	56	48	23

Mr. Farr adds that, so far as statistical investigation has hitherto gone, temperature appears to have no influence on the fatality of consumption (tubercular phthisis); while it exercises a well-defined influence in emphysema and in the inflammatory diseases of the chest.

We cannot conclude this account of Mr. Farr's letter without expressing our high sense of the industry and acumen of its author. He deserves in an eminent degree the thanks of the profession and the public, and we are satisfied that his analysis of the mortuary tables of this country are calculated to prove beneficial to science, and to re-act beneficially on the health of the community. They dispel some professional as well as popular errors, and establish some far from unimportant truths.

THE ADMINISTRATION OF MEDICAL RELIEF TO THE POOR, UNDER THE POOR LAW AMENDMENT ACT, AND OTHER LEGISLATIVE PROVISIONS FOR THE PUBLIC HEALTH, CONSIDERED IN THE REPORTS OF THE POOR LAW COMMITTEE OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION. To which are appended certain Clauses suggested for Insertion in the Contemplated Bill for the further Amendment of the Poor-Laws. London, Sherwood and Co. 1842.

UNFORTUNATELY, too many of *our* readers are acquainted with the manner in which the administration of medical relief to the poor has been conducted. The Poor-Law Amendment Act, whatever may have been its merits of principle, has, in many important particulars, been infamously mismanaged in detail. Unnecessary interference, repulsive want of feeling, and gratuitous cruelty, have characterised its operation. Inhumanity wears its severest front, when sanctified by abstract principles. It then

becomes a species of fanaticism, and dries up the wells of human kindness, in bosoms, where at other times they may freely flow. Whoever doubts this, need only look at the proceedings of the Commissioners, and Assistant Commissioners, under the New Poor Law. The brutality of the old parish overseer might have been more revolting from its coarseness, but was infinitely less mean, equivocating, and contemptible than that which we have lately seen in high salaried officers and reputed gentlemen. A pertinacious adhesion to arbitrary rules in spite of all remonstrance, and in defiance of experience, has not been more conspicuous on the part of the Commissioners, than their shuffling out of the consequences of their acts. Their harshness has only been exceeded by their meanness.

Nor has their policy the merit of success. They came into office with the evils of the old poor law fresh in men's memories. The new law which they had the task of administering had many admirable features, and was calculated both to regenerate the poor, and to benefit the rich. If it called up some sinister interests against it, that is what every social change has to encounter, and such an opposition cannot long resist the force of public approbation. Some years have elapsed, and how do the Commissioners and the new law stand now? The only thing which can exceed the unpopularity of the one is the odiousness of the other. No public functionaries in England are so much disliked. Their defence has overthrown one government, and will, unless concessions are made, impair the stability of another. By the poor they are detested—by the rate-payers they are either positively disliked or coldly tolerated—by the medical profession they are regarded as in the light of natural enemies—and by the press they are denounced in the most opprobrious terms. If their position had difficulties, the Commissioners have not been the men to diminish them.

Their treatment of the medical profession has been contumelious and unwise in the extreme. We foretold, some years ago, that the Commissioners in attacking the medical profession, were raising up numerous and powerful enemies against themselves and the law. The event has shown that we were right, and has demonstrated the evil as well as the folly of unnecessarily multiplying opponents to the measure. But that is the affair of the Commissioners, who think perhaps that they are so marvellously loved that nothing can shake the good opinions of their countrymen.

We propose to take a retrospect of some of the doings of these Commissioners, and to exhibit their consideration for the poor, as well as their courtesy towards the profession. We shall probably place them in a pleasing light, for which we can take no merit to ourselves, their own actions speaking for them too decisively to require much in the way of comment.

1. The first point to which we shall allude is the size of the Unions. On this the Commissioners plumed themselves, no doubt, seeing how difficult it has been to reduce them. The admirable consequences of assigning the smallest possible number of doctors to the greatest possible number of patients, spread over the greatest possible space, might be anticipated a priori. No doubt the Commissioners and their creatures act on the same principle in their own cases, and don't care to have the medical attendant of their families within some eight or ten miles of them. That being the

fact, the following was only Christian conduct towards their fellow paupers. We quote one instance out of many.

"'The AYLESBURY UNION was described as being 'principally situated in the vale of Aylesbury, which consists of a damp, clayey, retentive soil, subject to inundations in wet seasons;' the atmosphere 'cold and humid;' the occupation of the working men chiefly agriculture, that of the women lace-making. The wages being low, 'their circumstances are bad, their physical condition is inferior, and their intellectual endowments small; they are a poor sickly race of beings, which is partly attributable to the soil, and partly to their insufficient diet.

The principal acute diseases prevalent among the poorer classes in this Union, are 'intermittent, remittent, and continued fevers; affections of the mucous membranes, often epidemic to a great extent.' 'The chronic diseases are scrofula, nervous affections, indigestion, and other diseases of the stomach,' which are remarkably prevalent. These peculiar features of the Union were detailed to shew the necessity for a careful provision of relief to the sick poor.

The Union was formed in July, 1835, by Mr. Assistant-commissioner Gilbert. Its shape is particularly irregular and inconvenient. It contains a population of 21,480, and forty parishes, which the guardians distributed into four districts.

Sixteen medical men, who previously attended these parishes, signified to the board of guardians, through one of their number as deputy, their readiness to continue their services, provided their salaries could be equitably adjusted, one in each district becoming responsible for three or four others who would assist him. The guardians, however, instructed by the commissioner, and following a practice but too frequently before adopted in the locality, had already *advertised for tenders*, which were to specify a payment per case, diminishing in amount as the total number of cases increased, with a maximum limit to the salary.

The resident practitioners stated their objections to this unjust proposal, which, professing to remunerate the medical officer according to the duty performed, deprived him of the miserable pittance when called upon for an unusual amount of exertion. They stated that they should have less objection to a payment per case, if the obvious principles of such a mode of remuneration were not violated by the limitation of a maximum; they therefore proposed fixed salaries for the four districts, amounting to £595; or, in case this were refused, they were prepared to accept a sum equal in amount to the average cost of medical attendance for the last three years, in the several parishes comprised in the Union.

The guardians rejected this most reasonable offer, insisting on a rigid adherence to the conditions of their novel and absurd proposition.

The medical men, averse to such a scheme, made one more attempt at conciliation, by suggesting a minimum limitation of the salary, as a protection or set-off against the maximum which the guardians required for their own security from the demands of disease and destitution.

But the board rejected all compromise, and the districts were disposed of, the first to a candidate residing out of the Union (not one of the sixteen), and the other three to two adventurers brought from London with tenders, in conformity to the prescribed conditions. The terms on which these districts were taken varied from 2s. 3d. to 4s. per case, according to the number of patients, limited by a maximum of £525.

Rather, therefore, than pay the somewhat higher salary first proposed by the medical men, or incur the average medical expenses of the previous three years, until a better system could be substituted,—or even rather than meet the subsequent endeavours of the profession to some approximation of terms, the Board of Guardians wantonly sacrificed to their own ignorance and pertinacity, the legitimate interests of a number of established practitioners; not content with this, they withdrew the poor from the care of their tried medical advisers, and

handed them over to persons of whose character, principles, and talents, they knew nothing.

The subsequent history of the medical contracts in this Union is instructive.

District No. 1, the greatest diameter of which was sixteen miles, was at first intrusted to a medical officer who also held a district in another Union (Tring), in which he resided. The most distant point from him was eight miles, at which point medical advice could be obtained within four miles. In the second year, another surgeon, residing out of the district (at Aylesbury), was appointed, from whom the most distant point was twelve miles! In the *third* year, *a third* medical man held it, together with another district (No. 2). This person was one of the London strangers, and resided at the same place with the preceding surgeon.

In this unfortunate district was exhibited not only the evil of repeated annual changes, but a progressive deterioration, for three years, in the medical arrangements.

The other districts suffered nearly similar mutations.

The greatest diameter of district No. 2 was fourteen miles. It was held by the same medical officer, a stranger from London, who, during the first two years, also held district No. 4, and in the third year district No. 1; this enormous extent of duty being undertaken without any assistant! The remotest part of the district was eight miles from his residence; but he might have been called upon after accomplishing fourteen miles of this district to travel nineteen miles through No. 4.

District No. 3, containing fourteen parishes, and nine miles in diameter, was taken for the first year by the other London adventurer, who settled in a central village. The second year, another surgeon just commencing practice in the same place succeeded him in office. In the third year, the guardians appointed a fresh practitioner residing out of the district, his residence being distant from its two extremities not less than seven and eight miles.

District No. 4 was held during two years by the medical officer of No. 2, the *nearest* point to whose place of abode was seven miles, the remotest twelve. Medical assistance might have been obtained at four points within a moderate distance of *all* the parishes. In the third year this district was held *singly* by *another surgeon* recently introduced, and residing at the same preposterous distance.

According to the understanding with the committee, the consequences of these arrangements were not detailed in evidence, it was only stated that 'cases of fever and acute diseases occurred which could not be visited properly; and elsewhere accidents occurred which could not be properly attended to.'

But a reference to the minute book of the board of guardians would disclose lamentable reasons for the dismissal of some of their oft-changed medical officers, and for the official reprimands which even the most determined indifference to the sufferings of the sick poor could not repress.

During the first year two inquests were held on patients who died under the treatment of the new surgeons; but the exculpatory verdicts by no means quieted popular suspicion.

No means were neglected to maintain the credit and the position of the strangers, and, in several instances, patients, under the gratuitous care of the established surgeons, were compelled to relinquish their aid, and apply to the Union medical officer in order to become entitled to any pecuniary relief.

Your Committee possess the details of neglected cases in remote parishes, where the paupers suffering from acute and serious disease were literally unable to procure medical aid." 10.

In the ETON UNION, one of the districts, containing a population of

5585, and six parishes, formerly attended by four medical men, each having a competent assistant, and each living near his charge, was entrusted to *one* medical officer, a stranger, who was located at the distance of six, seven, and even eight miles from the remote parishes.

The FAVERSHAM UNION was formed in 1835 by Sir Francis Head. It contained a population of 14,845 souls, and twenty-five parishes, and was forty miles in circumference.

Eight medical men, all competent and qualified, had previously attended these parishes, at an average expense of about £500 per annum. On the formation of the Union, the assistant-commissioner advised the board of guardians to offer £250, without assigning any reason for so extraordinary a reduction. The resident practitioners, desirous of being employed, declined this offer, and proposed the average annual amount of the former salaries. The board of guardians would listen to no compromise, and advertised the medical care of the Union at the above sum, £250.

A perfect stranger, being at the time in prison for debt, applied for and obtained the appointment to the whole Union! He was without a horse or an assistant, and destitute of the necessary remedies and means of preparing them. In consequence of his inferior equipments, the board reduced his salary to £225, thus incapacitating him still further for attending properly to his unfortunate patients.

The complaints of the poor were loud and constant. Nevertheless the guardians retained their medical officer until 1837, when, from increasing embarrassments, and inability to fulfil his engagement, he abruptly absconded.

The HAMBLEDON UNION, formed in March, 1836, by Mr. Mott, contains 11,882 inhabitants, and sixteen parishes, which were previously attended by seven practitioners, residing in and dispersed over the Union, the extent of which is twenty miles by ten, and the area about 106 square miles. The average annual salaries had been about £350. and the extra charges nearly £100. more.

After the usual "palaver" with the medical men, about as dignified and satisfactory as one on the banks of the Tchadda, advertisements were issued for "tenders" when one was sent in at £110. for the whole Union, by a person from a distance, who had passed his examination only a year and a half previously. The guardians added £40. to the sum specified in his tender, and actually appointed him to the care of the entire Union! The following year they added £100. to his salary, making in all £250, and soon after allowed him extra remuneration for midwifery, the very terms proposed by the former surgeons.

We may well suppose that this fortunate gentleman can do justice to his *poor* patients spread through the moderate area of 106 square miles! He must be, like the ghost in Hamlet, hic et ubique.

The SHIPSTON-UPON-STOUR UNION contained a population of 19,030, and thirty-seven parishes, in which *ten* medical men at least had formerly the charge of the poor, at an average annual cost of about £500, including extras.

There was the average (perhaps rather more) amount of shuffling, terminating in the appointment of one medical attendant to the whole Union. Mr. Assistant-Commissioner Stevens distinguished himself upon this oc-

casion. Of course the poor suffered, but that was no great matter. The deuce of it was that "them wicious paupers," as Mr. Bumble very justly denominates them, would not die in quiet, so, in the third year, the guardians found it necessary to deprive their protégé, of one of the four districts; and, in the fourth year, the complaints reached such a height, that the Union was re-divided, and four medical men appointed, whose collective salaries amounted to £310,—an arrangement which still subsists.

In another part of the pamphlet before us, we find some further evidence of the convenient size of districts deduced by Mr. Farr from the Parliamentary returns. That gentleman states in evidence:—"The Newbury Union is seventy-two square miles in area, the Leighton Buzzard Union is fifty-five square miles. The surgeon appears to reside nearly in the centre of the district, but it is eight miles from his residence in one direction. District 2 of the Oakhampton Union, fifty-four square miles. and the boundary eight miles from the surgeon's residence. In the Northleach Union, the area of two medical districts is 109 square miles; the surgeon resides out of the district: apparently it is eleven miles from his residence to the southern extremity. In Northumberland, the Haltwistle Union, two districts, comprise 108 square miles. In Westmoreland, Shapwest-ward comprises ninety-eight square miles; the distance from the surgeon's residence in one direction is nine miles. In York, the Driffield Union comprises 115 square miles, its population 14,718."

Mr. Farr also mentioned the immense population of several other districts. For example, the Dover medical district comprised a population of 20,507; the Sevenoaks and Shoreham district a population of 13,735; Leicester Union, district No. 1, 23,954 inhabitants: Bethnal Green Union, divided into three districts, comprised a population of 62,018. Other districts were alluded to, which, though not excessive in population and area, presented serious obstacles to a prompt supply of medical relief. Thus, "in the Ledbury Union, district No. 2, the surgeon appears to reside out of the district. The distance from his residence is eleven miles in one direction, and ten miles in another. So in the Leominster Union, district No. 3, the surgeon resides out of the district, the distance of the boundary from his residence being twelve miles in one direction. In the Hereford Union, district No. 3, the distance is ten miles. In the Broughton Union, Lancashire, it is eleven miles; in the Calton district, twelve miles; in the Clun Union, eleven miles." Several similar instances could be given.

Whatever commissioners or assistant commissioners may say, we fancy that there will be but one opinion on this matter. And yet the commissioners defend such preposterously cruel arrangements They reported that—"No sooner was any part of the country formed into a union, than the propriety of altering the arrangements established for medical relief in the separate parishes, and of resorting to a new and more combined distribution, became apparent." This thing which is so apparent they do not, however, prove, but stammer out a sort of shuffling apology. Thus, Mr. Gulson alleged "that the medical men under the old system rode over the ground which other medical men had in their districts." This assertion may be met at once by the well-known fact, that, on the introduction of the new system, the riding over each other's ground was vastly increased.

by separating the private and pauper practice, and employing two surgeons in a parish, where one had previously sufficed. Then, the commissioners, taking shelter behind the guardians said, "the districts have been deliberately formed by the respective boards of guardians, who, from their local knowledge, must be considered to be the most competent judges on the subject; and we have reason to believe, that in almost every instance the best arrangement was adopted." Now, to controvert this specious statement, made, be it observed, in 1836, when the abuses were at their height, it is only necessary to refer to the parliamentary evidence, especially to the early distribution of the parishes in the Aylesbury, Lincoln, and Shipton Unions, in all of which the guardians shewed the folly of their arrangements by abandoning them. They did not, however, abandon them merely from a sense of justice. That would ill befit either guardians or commissioners. It was only when a few coroner's inquests had occurred, and made things awkward and unpleasant. Then indeed these provident guardians, on whom the commissioners, good easy souls, depended, thought it prudent to give in, the rates having been lightened, in the interim of two or three sickly paupers.

All these excuses are a mere fetch. So far from a new arrangement being necessary, no evidence was adduced to shew that any one parish was either destitute of, or at an unnecessary distance from, medical advice; on the contrary, cogent reasons were brought forward in support of a system, which made it the interest, personal and pecuniary, of the rate-payers of each small country parish to place their poor under the care of that practitioner whose residence was most convenient, and whose practice brought him, most frequently, into the village. The inhabitants of rural districts did not require an assistant-commissioner, unacquainted with their locality, to direct them whither to send for medical advice.

The real object of the commissioners and of their creatures had no relation to the benefit of the poor or the convenience of the surgeon. They advertised large districts, because they were calculated to *stimulate competition*. They seemed worth having, that was the real motive. To put the sick poor up to auction with effect, they must be put up in droves. And certainly they went in goodly lots. Poor serfs, too many of them were literally *knocked down* to the lowest bidder.

Mr. Gulson, the considerate gentleman who advocated large districts because in little ones the medical men rode over one another's ground, finding, perhaps, the faculty not quite so grateful as it ought to be, threw in *his* plea for the poor. And a very kind one it is. He professed that he could not understand why *the poor*, in cases of extreme illness, should suffer more from the distance of medical advice than *other* sick persons. The testimony of the medical witnesses would have informed him. "In the first place, they have to send to the relieving officer and to the surgeon, a distance of seven, eight, ten, eleven, or fourteen miles; and after they have sent for the surgeon they have to send for medicine, or the person has to wait at the surgeon's house until he returns and orders the medicines. . . . . If the distance were less considerable, younger children might be sent; but when the distance is so great, of course a grown up person must be necessarily employed; and that causes a great waste of the labourer's time." Nor is the injury confined to the poor. The increase

of expense to the surgeon is immense: the difference between visiting patients scattered over a small and a large district must be very great: it would involve the keeping of two or three horses, in addition to the horses which he would require for his private practice. It has a direct tendency to increase the expense of the medical attendance, whether that expense is borne by the surgeon or the guardians is indifferent; it is an unnecessary expenditure of time and labour which might be otherwise employed.

If Mr. Gulson's wits were so dull it is a pity that he ever accepted the situation of an assistant-commissioner. But we doubt if Mr. Gulson is quite such a noodle as he would have us believe. We dare say it occurred to him or his superiors that poor people a long way off from the doctor will be very likely to neglect their ailments, rather than be at the trouble of fetching him—while the doctor will be not unlikely to neglect them too, rather than be at the trouble of going. So two very desirable things are obtained—medical relief is curtailed without the inconvenience of refusing it, and a few of the most obstinately invalid paupers, bid, like Richard's patients, the world good night.

To sum up, the formation of these monster districts never operated, and never could be intended to operate, as a boon to either the poor or the profession. They were formed in order to coerce the one, at the expense of the health and lives of the other. A very humane and sensible proceeding.

One other point we cannot refrain from noticing. At the very time, and in the very Unions where the frightful consequences of the system were exhibited, the commissioners obtained from the guardians, who had been their accomplices or tools, evidence of its admirable working. This was duly published in their annual report, and we do not doubt that it is quite as trustworthy as the remainder of their documents. In the North Aylesford Union the guardians reported the medical arrangements as "adequate to the relief of the paupers." In the Wallingford Union they pronounced them as "quite adequate, and equally efficient with the former arrangements." In the Eton Union, "adequate and decidedly better." In the Faversham Union, "quite as adequate and more efficient." In the Hambledon Union, as "adequate and as efficient." In the Tendring, "adequate." In the Woodbridge, "quite adequate, and quite efficient." In the Aylesbury Union, "adequate and efficient." And (will it be credited?) the guardians of this Union, who were at length compelled to dismiss two of their medical officers for neglect or improper conduct, had the assurance to report, that only two or three complaints were made, which, on investigation, proved to be without foundation!! In the Bridgewater Union, the disgraceful system adopted was described by its authors as being "adequate and more efficient." Adequate no doubt it was, and more efficient, too, for never before were there such inquests in England for mal-practice.

The next point to which we shall advert is the palpable insufficiency of the remuneration under the new system.

Mr. Farr calculated, from the returns made to the parliamentary committee, that "the amount of remuneration in the metropolitan unions was on the average 1*s.* 5¼*d.* per case; in Lincolnshire, 5*s.* 4*d.* per case; in

Dorsetshire, 3*s* 6*d*.; in Devonshire, 3*s*. 5*d*.; in Cheshire and Lancashire, 6*s*. 1½*d*. in Wilts, 1*s*. 11½*d*.; and, taking the average of these counties, 3*s*. 3½*d*. per case."

He first proved how totally inadequate this was, by a calculation of the prime cost of medicines, which cannot be properly supplied to pauper patients under 2*s*. 6*d*. per case.

In the metropolitan districts, therefore, the sum paid to the medical officers was 1*s*. per case less than would suffice to supply the patients with drugs alone; whilst in the country districts, on the average, only 9*d*. was allowed for the time and labour of the medical attendant, and the cost of journeys. In some counties, indeed, the remuneration was absolutely below the proper cost of medicines.

That 2*s*. 6*d*. per case is barely sufficient to provide drugs for the poor was the opinion of other witnesses. Mr. Ceely said, "I should be sorry to furnish all the medicines for the Aylesbury Union at 2*s*. 6*d*. per case." Mr. Farr stated, on the authority of Dr. Bigsby's pamphlet, that "the cost of medicines in twenty-two dispensaries was 2*s*. 1½*d*. per case. The Apothecaries' Company supplied the navy with *galenicals* at 2*s*. 3½*d*. per head," equivalent to about 3*s*. 6*d*. per case; the addition of *chemicals* would probably raise it to about 4*s*. per case. It was shown that the cost, in many hospitals and infirmaries, was much higher; for example, in St. George's Hospital it averaged 5*s*. 2½*d*. per case, for all the patients, in the years 1834 and 1835, but the "average of nine county hospitals, including both *in* and *out* patients, was 3*s*. 7*d*. per case," and, according to the Rev. C. Oxendon's "statistical Report of Provincial Hospitals," the average cost of each patient in drugs, leeches, wine, spirits, and surgical instruments, was 3*s*. 11¾*l*.; the expense in drugs and leeches only, 2*s*. 5½*d*. per case.

The Committee of the Association are quite disposed to agree with Mr. Farr, that "as the result of a careful examination of all the returns given in—medicines, leeches, bottles, bandages, and medical appliances of every kind, would amount to 5*s*. per case, on cases of all descriptions, such as they occur in private practice, of perhaps fifteen or twenty days' duration; and that, with the greatest economy, applying Mr. Chadwick's dietetic principles to the Materia Medica, the cost of drugs for medical cases of twenty-three days' duration, cannot be fixed at a lower sum than 2*s*. 6*d*.; the patients could not be supplied at 2*s*. 6*d*. with the same medicines precisely as are supplied to the rich; but I can conceive, that by various expedients, without withholding essential drugs from the sick poor, the cost of medicines may be reduced to 2*s*. 6*d*."

It is quite evident that if the remuneration does not cover the actual cost of the medicines, the poor will not have justice done them. It is not to be supposed, human nature has not arrived at that ideal of perfection, that medical men, or any other men, will incur loss permanently and continuously for charity's sake. But granting that they might do it voluntarily, it is certain that they would not do it on compulsion. Well-fed, well-salaried officials exercise a power which the law has inadvertently placed in their hands, and force a profession into a position of indignity and pecuniary loss. Is it likely that, smarting under a sense of injury, they will discharge the duties of their position well? Common sense replies

that they will not. The lives then of numbers of our fellow-creatures are made the subjects of a flagitious bargain and inhuman parsimony.

Did the commissioners set us a worthy example—did they renounce emolument and profit—did they endeavour to reduce their own bloated salaries to a minimum, we might then submit to privations with more cheerfulness, and cease to murmur at economy, which was, at all events, impartial. But we look in vain for a self-denying ordinance on the part of any of these gentlemen: their care for the pockets of the rate-payers begins below themselves, and the screw is applied just at that point where their own knuckles are safe.

Yet the ingenuity so profitably occupied in taking care of themselves, has not been altogether withheld from us. These gentlemen would have it believed, that low payment is a capital thing, and that a man is making most when he is money out of pocket. Thus, the chairman of the committee (he got the hint no doubt from the commissioners) was desirous of extorting admissions, that as the effect of inefficient treatment would be to protract or aggravate diseases, it must be the interest as well as the duty of the medical attendant to provide properly for the cure of any patient. But the witnesses proved that a medical officer, if "determined to get through his duties at the least possible expense and trouble, has the means of so doing by administering cheap and inefficient remedies, without its being discovered either by the patients, the guardians, or the public; . . . . that it is in the power of the practitioner to neglect his duties to a very great extent, perhaps to produce a prolongation of suffering, and very frequently loss of life, without his delinquencies being detected by unprofessional observers;" and, therefore, that a person of this description might, for a time, fancy it to be his *interest* to deprive the poor of the necessary remedies.

Certainly it was a happy idea, and worthy of the poor law commissioners, to stimulate a medical man to do his duty by paying him so badly that every case was a loss. It is stolen from the Chinese plan of stopping the physician's salary while the patient is sick. But it is an improvement upon that—for the Chinese, if they mulct the doctor during illness, pay him fairly in health. The poor law commissioners recompense us neither in one nor in the other.

Pray do these gentlemen adopt this plan in the cases of themselves and their own families? Does "good advice" mean the lowest or the highest priced? Does a man expect worse or better attendance for a guinea fee or a half-crown one? If the above precious reasoning were worth anything, the duration of the case ought to be in the ratio of the amount of remuneration. A man who should consult Sir Benjamin Brodie for his knee, should pay him shillings instead of sovereigns. This would make Sir Benjamin so sick of the case that he would cure him off hand on purpose to get rid of him.

The obvious fallacy in this mode of reasoning is the assumption that attention is cheaper than neglect. Anybody who knows anything of physic is aware that it is not. It would *cost* the medical man much more to cure a child by leeches, than to let it die by negligence—to cure a case of cachexia with sarsaparilla, than to let it go on in sæcula sæculorum with bread pills. The poor law commissioners first engage needy men by the

pressure of competition, and then render the contract so ruinous that it is impossible they should perform it. And the sufferers, be it recollected, are not merely the improvident or dishonest parties who contract, but the guiltless and the helpless poor.

The felon is better off than the pauper. Mr. Farr shewed that the average cost of medical attendance upon prisoners in the English jails was 13s. 7d. per case, and in the Irish jails still higher. Hence it might be inferred, that the State values the life and health of a felon at four times that of a pauper, since the remuneration of prison surgeons bears that proportion to the payment of union surgeons. If the readiness of the latter to accept office on inadequate terms be the cause, as Mr. Gulson intimates, of so extraordinary a discrepancy, the salaries for prisons might, with equal propriety, be reduced by professional competition to the same level. And why have they not? Simply because the ill effects of such a course had been previously discovered. "The medical attendance on prisons was formerly conducted very much with a view to cheapness; but when an enactment was made, which shewed that it was the wish of the legislature to have efficient services, and pay for them adequately, the visiting magistrates raised the terms of remuneration to a fair extent, and have by this means pretty generally now rendered the appointment of surgeons to prisons one that the most respectable members of the profession feel desirous of obtaining." This reform was described by Mr. Farr in the following terms:—

"The consequence of neglecting the prisoners in jails has been made too frequently evident to allow any parties to overlook the fact. Jail fevers and other diseases have often attracted the attention of government, and the number of deaths occurring in the jails are recorded and known to every body; deaths occurring over a scattered district, and at isolated points, are often forgotten, and make no general impression; and again, on the other hand, the magistrates appoint the surgeon to the jails, and the magistrates are not so difficult to deal with as the old overseers were, and they are rather more scrupulous."

"The overseers (and he might have added *the guardians*) attended more to the amount of the salary, than to the efficiency with which the duty was performed."

Mr. Power, the assistant-commissioner, candidly confessed that "he did not see any reason why, with reference to those parties who are provided with medical attendance by the public, any distinction should exist as to the expense between those who are provided for by the government and those by the parish."

The humanity of public bodies depends, we fancy, on the pressure from without. It is a sort of barometer, falling when public opinion is stagnant and dull, rising when it becomes clear and expressive. Felons get good medical advice, because if cut off by jail fevers, great folks who are in contact with them are frightened, or coroner's juries and the press are troublesome. But the village pauper dies unheeded, and the tenant of the cabin may rot without the aid of public cognizance or sympathy. So that what one might call the head-money of the cottier comes to be four times an that of the pickpocket or burglar.

The following additional statements will put in another, though hardly in a stronger light, the injustice of these arrangements.

"The standard of union medical salaries has hitherto been estimated with reference to the number of cases attended, but the real cost per case depends of course upon the duration of the attacks of illness. In different localities, and in different types of disease, no less than under different systems of bestowing relief, it is evident that the average duration of cases must vary greatly. The calculation per case is therefore not always an accurate index of the rate of remuneration. Perhaps a more satisfactory method of demonstrating the inadequacy of parochial payment was that suggested by Mr. Farr, by ascertaining the cost of *one* patient sick for a year. It appears from his evidence, that for a pauper constantly sick, or for a succession of single cases, the average cost was £2. 13s. per annum, according to the returns from the eight counties. Now, by the army regulations, country surgeons, in the absence of a military surgeon, are paid at the rate of 4s. 4d. per annum per man for the medical care of the troops, except where the number is under fifty, when the rate is increased to 6s. per head. Taking the number constantly sick at 4 per cent., the payment for each sick soldier per annum would be either £5, 8s. 4d. or £7. 10s. according to the numbers; the lowest of these rates being more than double the amount of pauper medical remuneration, without taking into account the expense and loss of time caused by journeys to distant parishes.

The disparity of payment observed in various unions was very singular, and, as Mr. Farr stated, could not be explained by anything in the returns. In Devonshire the payment per case ranged from 1s. 6d. to 8s. and 10s. apparently without reference to area or distance. Thus, also, in the Wycombe Union, Bucks, the remuneration per case was 2s. and 2s. 9d.; whilst in the Bridge Union, in Kent, it was 10s. per case per quarter, so that, in cases lasting a year, it would amount to £2.

Neither commissioners nor guardians appear to have proceeded on any fixed principle in determining the payment per case; but in order to guard against the consequences of too liberal an estimate, they almost uniformly limited the number of cases to be paid for; thus they secured themselves by a maximum of the cost, whilst they left the medical officer with a certain prospect of loss, either by their effecting a reduction in the number of his cases below the proposed maximum, or by granting orders to a greater number of sick than they meant to pay him for.

The gross unfairness of such an arrangement was shewn by some of the medical witnesses, but the point is too obvious to require further notice in this Report.

The remuneration under the new system was asserted by Mr. Gulson to be relatively greater than before, owing to the reduction of medical pauperism. He supposed this to be the case, 'because only one-half of the people that used to be attended are so now; the remainder provide themselves with medical attendance."

Mr. Gulson was never more mistaken. An unprejudiced inquiry would have convinced him, that gratuitous aid supplied the deficiency of parochial charity, and that the medical paupers continued so still, though they were dignified by the name of independent labourers, because the parish no longer bore their expenses.

Even those who professed a wish to pay for medical advice found themselves unable to do so, and the losses sustained by attendance on the labouring classes were much increased." 36.

In fine, the new system ground down those who took the unions—imposed a tax on the humanity of those who would not take them—and left the sick poor to half-paid incompetence, or unpaid spontaneous, and there

fore uncertain benevolence. It wronged the pauper, the profession, and its own protégés. The latter indeed have been much in the plight of those who sell their souls to the devil. The devil always manages to get the best of the bargain.

We now come to the TENDER SYSTEM, and a tender system it is.

The poor law commissioners assert in their second annual report:—"We have *never sought to disturb or displace the medical practitioners in their respective districts*. Whenever this has been done, (and the introduction of individuals from a distance has occurred in but a very few instances,) the guardians have been forced to adopt that course by the inadmissible demands which have been made upon them by the gentlemen who now complain of their practice having been interfered with."

The Report before us quietly and conclusively establishes the contrary. The demands of the medical practitioners were based on the old scale of remuneration on which the commission on the old poor laws remarked, that "medical attendance seems in general to be adequately supplied, and economically, if we consider only the price and amount of attendance." That could not be considered inadmissible, the reasonableness of which had been thus admitted. But the commissioners proceed in the same jesuitical strain. They repeated before the parliamentary committee that "the instances in which strangers have been introduced, bear a small proportion to the whole number of the unions;" and so, according to Mr. Gulson, "the introduction of a stranger was quite the exception." The obvious reply is, that its being the exception, instead of the rule, originated not in any favourable disposition of the authorities to the established practitioners, as events have sufficiently proved, but in the fears and necessities of the latter.

The fact is, that, in the vast majority of unions, some of the resident medical men sent in "tenders," or submitted to the terms dictated by the guardians, not because they considered appointment by tender defensible, nor because the offers of the guardians were less inadequate than in those unions where strangers were introduced, but because they were resolved, at all hazards, to keep out another rival; or occasionally, it is feared, were desirous of occupying a position which would enable them to infringe on the private practice of their established competitors. The guardians were, indeed, seldom reduced to the necessity of introducing persons from a distance. The mere threat of such a proceeding frequently availed to ensure acquiescence on the part of the resident practitioners. Examples of this are to be found in the Banbury, Chipping-Norton, Cookham, Eastry, and Reading Unions.

Sir Francis Head, the assistant-commissioner, openly boasted that the immense reduction, which he had made in the medical salaries, was principally effected by the free use of such threats. It can scarcely be believed that the commissioners have persuaded themselves, although they endeavour to persuade others, that the apparent acquiescence of the medical men in so many unions, *thus obtained*, was any proof of their cordial approval of the arrangements of the guardians.

Nor should such statements as the following pass unnoticed. "Many medical men, who set their faces against these arrangements in the first instance, now cordially accede to them." A reference to the unions be-

forementioned will prove that, although, in many instances, the established practitioners, tired of the contest, and smarting under the injuries inflicted upon them, have yielded to the guardians, and accepted office on almost any conditions; yet in nearly an equal number, such has been the change in the opinions and proceedings of the guardians, that the medical gentlemen have been enabled to hold the appointment with a due regard to their own consistency. In these cases the guardians have amended their system, not the medical men their views.

All this is of a piece with the conduct of the commissioners throughout. First they cajole, then, if that does not answer, bully the medical practitioners. Many this intimidates—some it stings to resistance. Those who are intimidated are held up as evidence of the satisfaction which the system gives. Those who resist are said to be unreasonable in their claims —then to have no ground for their complaints because their claims have been conceded. Whilst the matter is confined to country parishes, the commissioners brag and bluster—when the public and the parliament become arbiters, the actors change their dresses, and then all is subterfuge and equivocation. A more sneaking exhibition of tyranny and humbug we have never witnessed. But to proceed.

"The advertisements for 'tenders,' the dictation of terms below the previous inadequate remuneration, and the imposition of degrading and injurious conditions, such, for instance, as the establishment of a medical club, were direct attacks on both the legitimate interests and the character of the profession. One of these, at any rate, was necessarily sacrificed, and the miserable alternative forced upon every parish surgeon, either of degrading his professional character by furnishing tenders, and accepting discreditable terms, or of forfeiting his fairly-earned advantages, by surrendering the care of the poor to strangers. Under these circumstances, therefore, what ground for surprise or censure is afforded by the fact, that the medical residents collectively have acted on the defensive in many unions, and occasionally, no doubt, with some asperity?" 21.

The thing to be regretted both on the profession and the poor's account, is not the existence of combination, but the want of it. It was not wide enough. Had the profession been true to itself, the commissioners must have been defeated. It is very well for those commissioners, armed with authority, and using it in the most offensive and arbitrary manner, to declaim against that combination which alone offered any chance of resistance. The outcry is another specimen of the *humbug* of which we have seen so much. Combination is neither a good thing nor a bad thing in itself—it is the object which that combination is to serve which stamps it as criminal or praiseworthy. What are some of our very best institutions but combinations or unions? What is the whole machinery of commissioners and assistant-commissioners and boards of guardians but a combination of the rate-payers? And shall only the powerful combine, and the weak not be suffered to unite? If the medical practitioners attempted to enforce unreasonable claims and improper demands, then their combination was criminal. But if those claims were just, and those demands moderate, and such they have been proved to be, the combination in support of them was laudable and necessary. The misfortune is that it was not more extensive and more successful.

We quite agree with the Report before us that the proper course for the boards of guardians to pursue at first, would have been to invite the medical men practising within their respective unions (such at least as were properly qualified) to meet and assist them in the medical arrangements, offering them the aggregate of the former parochial expenses, and acting on their suggestions in appointing the medical officers, distributing the parishes, and apportioning the remuneration. The attempt to effect all this on Mr. Gulson's plan, without the cordial co-operation of at least the majority of the professional corps, could only terminate, as it has done, unsuccessfully. Had an opposite course been pursued, the contest might have been avoided; the heart-burnings, the severance of ancient connections, and the social animosities, which have resulted from the desperate measures adopted by the poor-law authorities, would not have been heard of. Time would have been afforded for preparing the data on which to found an improved system of medical relief, and the guardians would not have been obliged, as now, to retrace their steps, and practically acknowledge their error. That the course here indicated would have been pursued in many unions, is clear, had not the poor-law commissioners prevented it. They ought rather to have enforced it in all.

Nor can it be said that the medical practitioners were wedded to the old system. They acknowledged its abuses, which may be easily summed up:—the absence of medical superintendence, and, indeed, of responsibility to any proper authority; the frequent adoption of tender in the appointment of parish surgeons; the degrading nature of the competition thus called into action among medical practitioners; the want of adequate inducement to perform properly the important duties of the office; lax and insufficient attendance on the poor; the operation of the settlement laws producing and encouraging charges for attendance on non-parishioners, which charges, if not *absolutely* high, (of which there is no proof,) were so *relatively* to the pitiful salaries awarded by overseers and select vestries; the occasional employment of ignorant and unqualified practitioners; the absence of any sufficient check on the appointment of distant surgeons, who from motives of speculation might offer their services; the indefinite nature of the liabilities of the medical officer, producing a tendency on the part both of the rate-payers and of the poor, to extend these liabilities at his expense, and to the injury of all parties concerned.

But the poor-law commissioners seem to have regarded the profession and the paupers in nearly the same light. They put the screw upon both. The policy as well as justice of their measures are already pretty apparent. An unpopular body of functionaries at the best, they have wantonly damaged by their precipitancy, self-sufficiency, harshness to the poor, and disregard of the feelings of the public, the success of the measure entrusted to them. So that after some years' trial it is more hated than ever, and the prolonged existence of the commission itself is in very imminent peril.

The crowning insult as well as wrong inflicted on the profession was the mode of carrying out the "tender system." The commissioners, when they first adopted this, thought they had the profession in their power. They were aware that our ranks are crowded, that many are found in [illegible]n oppressed by poverty and forced by necessity to disregard the sug-

gestions of that nice sense of honour which only flourishes in affluence. They believed that they need only raise the standard of competition, and mercenaries would flock to it. To a certain extent they were successful. But of the adventurers they enlisted, some deserted a service which they found both dishonourable and ruinous—others displayed their own incompetency and the gross impropriety of the whole arrangement—while the voice of the entire profession, backed by the indignation of those who were shocked at the working of the system, gradually acquired a degree of force that made itself heard in parliament and out of it. The commissioners put upon their trial resorted to the old game of subterfuge and equivocation, and cast about for any excuse that might serve to hoodwink the public.

Thus, Mr. Gulson, in his evidence, and the commissioners in their reports and other documents, endeavoured to show that, at the commencement of their operations, the guardians had no alternative but to require tenders. They said, "it is only by resorting to open tender, that, situated as the guardians are, in the formation of new unions, they can ascertain, with anything like correctness, the sum which it may be right to pay for the medical relief of a district."

Mr. Gulson stated: "Tender has been unavoidable, and is a good plan in the first instance to ascertain what we can fairly get it done for;" and, "In highly pauperized districts, I decidedly recommend tender, because we found it difficult to fix a sum;" and again, "We could not avoid it in the first instance," qualifying his assertion, however, by excepting "those Unions in which the sum that had hitherto been given appeared to be moderate." Mr. G. thus admitted that it was unnecessary to resort to tenders in every instance, consequently the commissioners stand corrected by the statements of their assistants. In fact, the commissioners did fix salaries in Kent and Essex, and the departure from the "tender" system was about as just and as conciliatory as the adoption of it. They fixed a sum, according to Mr. Gulson, where pauperism prevailed and the medical salaries were consequently "high." The Reporters observe that this appears to have been the mode of reasoning: "where the paupers are few, a calculation may be made, because they are not worth putting up to auction; but where they are numerous, a fair calculation would raise the salaries, which it is my aim to depress: competition must, therefore, be encouraged; highly pauperized districts are probably the result of the 'high' medical salaries; the number of paupers must, therefore, be reduced by diminishing the remuneration of their attendants. Sickness and destitution will decrease where relief is withheld."

The shallowness of this excuse was too palpable and it was dropped. Then another was shuffled up.

"'The elements,' wrote the commissioners in their second Report, 'on which the calculation must be founded are in themselves utterly unknown to the persons who are selected for the office of guardians; the medical practitioners themselves cannot fail to be possessed individually of the knowledge necessary for making the calculation, and in asking them to bring it forward in the way of tender, nothing more was meant than that they themselves should in the first instance suggest the amount of the reward, which, in their own view, their services might entitle them to,—thus, in truth, constituting the medical practitioners, and not the boards of guardians, the judges of the fitting amount of remu-

neration for their attendance.' In like manner the chairman of the committee suggested that 'the guardians ascertained by tender what in the opinion of the medical men, being themselves competent judges upon this subject, their remuneration should be.' There are two assumptions in this specious but shallow apology for tender: first, that the medical men who furnished them possessed the *data*, as well as the 'knowledge necessary for making the calculation;' secondly, that the only method of inducing the medical practitioners to furnish such a calculation was to require tenders.

The fallacy of these assumptions was shown to the parliamentary committee. The great majority of practitioners were at that time without sufficient information as to the elements of the calculation. The subject had *then* been investigated by but a few. The average cost per case of a proper supply of drugs had not been correctly estimated. The writings of Dr. Calvert, Mr. Smith of Southam, and our late lamented colleague, Mr. Yeatman, had given very inadequate notions of the prime cost of medical attendance and medicines for the poor; and even these imperfect calculations were unknown to the bulk of the profession. So defective and objectionable was the old system, that it disposed even medical men to undervalue parochial services, and therefore to underrate the expense of proper medical relief.

The former surgeons of parishes knew, indeed, that they had never been remunerated. 'Their contracts had never been founded on previous fair calculation of the number likely to be relieved, and the real cost of careful attendance;' consequently they could never have reckoned on a direct compensation for their time, outlay, and personal exertions.

The introduction of the new arrangements threw additional obstructions in the way of any attempts at such calculations. They knew not for what proportion of the population the guardians might choose to provide medical relief. They could only refer to their old stipends, and take into consideration the increased trouble, which, under the new system, they would incur from onerous returns and inconvenient districts.

But, in truth, whatever the ignorance of the guardians, or of individual practitioners, on the subject, the commissioners had access to some very important sources of information, partly communications made to themselves, and partly valuable papers in the Appendix to the Report of the previous Commission of Inquiry. Had they honestly adopted the valuable and disinterested suggestions contained in these documents, and availed themselves of the assistance of the medical gentlemen in the several unions, they might have framed plans far less objectionable, without any recourse to tenders." 27.

What the commissioners knew they kept to themselves, or used that knowledge with the unworthy view of trepanning the profession. To the profession they made their jesuitical appeal. Affecting to ask them to name their terms, they, in reality, imposed their own. To every fair and ordinary bargain there are two parties, and mutual agreement. But the proceedings of the commissioners bear no such just and reasonable aspect. In the language of the report, "Were the medical practitioners addressed as parties without whose cordial co-operation *no* system, whether provisional or permanent, could be properly administered? Were they supplied with such data for the calculation, as the commissioners and guardians alone possessed? Were respectable and long resident practitioners consulted? No:—instead of such a wise and magnanimous course, the commissioners chose to appeal to every individual in the profession, whether resident or non-resident, employed or unemployed, established or seeking a home and a morsel of bread. All were invited to transmit their estimates, and the prospect of office was held out to that person whose

estimate of the fitting amount should most nearly coincide with the views, and appear best calculated to promote the designs, of the commissioners. Let any unprejudiced person pronounce whether a project could have been devised more likely to destroy every notion of adequate remuneration, in the minds both of those requiring, and of those furnishing, tenders.

The poor-law commissioners were fully aware that the sums specified in these tenders would not bear any relation to the value of the article supplied.

How much less discreditable, then, would it have been, had they openly avowed, that their sole object in requiring tenders was to reduce the union expenditure, and not descended to evasions so palpable as to strike even the most simple!"

The defence of the commissioners is, as usual, tricky and fraudulent. "The guardians have, in very many instances, been induced to set the lowest tender aside, solely with reference to considerations of character and personal qualifications." "I have seen numberless instances where the lowest tender has not been accepted." So *said* Mr. Gulson, but his memory was too short or too convenient to cite any instances of such magnanimity. We should like indeed to see them. Generosity and the poor-law functionaries are so wide apart, that one is apt to think they could never come together. We would wager something that could any seeming instance of such liberality be brought forward, there would be found some shabbiness at the bottom of it—some paltry specimen of favouritism or spleen.

But if there have been no instances adduced of the rejection of the lowest tender—there have been enough of its acceptance. In the Wallingford Union, for example, a district and a single parish were *by the direction of the assistant-commissioner, Mr. Stevens*, entrusted to two medical men living at a distance, who had sent in the lowest tenders, instead of to the resident and tried practitioners, whom the guardians wished to reappoint. Yet, in the face of such facts, the commissioners ventured to assert that the boards were not required to accept the lowest tender. And in the Crickhowell Union, a young man, who had resided in Wales only four years, and understood not a word of the language, having sent in the lowest tender, was appointed to the care of one-half of the Union, "where you may go for miles before you would meet with a person who could interpret between the medical man and his patient." In fact, the examples are too numerous to cite, and too notorious to require it. And the object was served, for the knowledge that the lowest tender might and in all probability would be taken, rendered every tender ruinously low. The "tender" system was the bullying system, and as such the commissioners employed it.

But soft. These *gentlemen* never in their innocence conceived that the system was unpopular. In their second annual report, they allege that it was never supposed such a course (viz. requiring tenders) was derogatory to the character of the profession. The simple souls. We dare say they thought that the profession *liked* being put on a par with the contractors for the parish bread and beef. There was something quite inspiring in that. And medical men were very fond, no doubt, of being bullied into pecuniary loss. The commissioners would have us more quiet even than

Balaam's ass. He *did* speak when he was smitten. The reporters justly observe—"So mistaken and degrading an estimate of the character of the medical profession shews the total unfitness of the commissioners to undertake the management and regulation of its concerns. They must have been well aware that such a practice would not have been tolerated by either of the other learned professions, nor in appointments to any other public offices. Their conduct towards medical practitioners was, therefore, without excuse."

We only trust that, as the tender system appears so unobjectionable to the commissioners, their own offices will be filled by it. We are quite sure it would work well there. Any change *must* be for the better.

But even to this, or to any other system, except cajolery and intimidation, which appeared in some shape at every place and under every disguise, the commissioners were "constant never." The reporters observe, that, without acting upon any well-defined or acknowledged principle, the commissioners excepted certain unions from the operation of pecuniary competition, "constituting" either themselves or the guardians "judges of the fitting amount of remuneration,"—that, in other unions, where the tenders which they had invited exceeded their expectations, they compelled a reduction of the amount, by threatening to introduce strangers,—and that occasionally they persuaded the most eligible candidate to accept office at the salary specified in the lowest tender.

And what reason and gentlemanly feeling and justice would alike combine to reprobate, what practice too has condemned, a parliamentary committee, biassed in favour of these arrogant commissioners, has explicitly and irrevocably damned.

"If offers have been made and appointments accepted by the resident surgeons at a rate below a reasonable amount of remuneration, under an apprehension that strangers to the neighbourhood might be introduced, and that a part of their private practice would be lost, together with their attendance on the poor, your committee think that this is a circumstance to be regretted, and they advise the adoption of some different mode of appointment." 30.

So the "Tender System" has got its death-blow, although its spawn are left behind.

We believe that it is unnecessary to say more on the subject of the inadequate remuneration of the medical men, improper size of their districts, and injustice of the tender system. But there are other grievances behind, not less real because less apparent.

1. One of the principal evils of the old system of parochial medical relief was the want of efficient supervision and control of the medical practitioners employed to attend the poor.

On the introduction of the new poor-law, the commissioners endeavoured to supply this defect, by requiring weekly returns of the diseases affecting the paupers, of the attendance of the medical officers, and even periodical reports of the treatment of cases. But the reporters observe that this plan proved both ineffective and offensive: *ineffective*, because neither the commissioners nor the guardians were competent to decide whether a sufficient amount of medical attendance had been afforded in any given case; and *offensive*, inasmuch as "highly qualified practitioners

could not feel satisfied in submitting their practice to the judgment of non-professional persons;" whilst the weekly attendances at the board, required of the medical officers, were felt to be derogatory, unnecessary, and incompatible with regular professional engagements.

The art, and, we may add, the impotence, of the commissioners, are palpable. They first cram, nolens volens, an obnoxious office on the practitioner. Sensible that forced into it by necessity its duties must be irksome, and the losses it entails, if possible evaded, the unhappy officer is treated with suspicion, and fettered by directions equally useless and annoying. How, in Heaven's name, can a board of guardians be judges of the proper treatment of cases—how can they answer that the real treatment is recorded? They may reply, that to practise such deception would redound little to the honour of the reporter. That is true, but we must take human nature as we find it, and the surest way to debauch men's principles is to insult their weakness. Those who are oppressed by force learn, too soon, to resist by fraud.

A general report is proper enough, but to erect a quorum of village Dogberries, or even the luminaries of Somerset-house into arbiters of medical or surgical treatment, is about as offensive as ridiculous. Their attempting to arrogate this as well as all other authority is a downright piece of impudence.

But the commissioners, perhaps, have nearly caught a tartar.

"The recommendations of the medical officers with regard to the diet of the sick, although generally complied with, soon began to excite alarm in the minds of economical guardians. The gentlemen, who imagined themselves competent to decide on the amount of attendance required in illness, would not feel at a loss in determining the propriety of 'full diet.' Occasionally, however, they were in a dilemma, as appears from a case suggested by the chairman of the committee. There might be two districts in a union, 'the climate, circumstances, state of health, &c., being the same,' in which the medical officers 'might differ widely in their dietetic directions.' One might be a follower of Brown, the other of Broussais, and the guardians, in the exercise of their authority, would feel it incumbent on them to pronounce judgment between the parties. The decision would of course prove anything but satisfactory, especially to the Brunonian. Dr. Kay, in reply, advised that the guardians should avoid any direct interference with individual cases, but merely summon the medical delinquent before them, and give him a 'general admonition.' The case of a refractory medical officer was next supposed, and here Dr. Kay could suggest no remedy but dispensing with his services 'at the end of his annual engagement.' Then, again, the chairman of the committee was anxious to know what should be done if there were no other resident medical practitioner competent to undertake the care of the union, or disposed to obey the wishes of the guardians relative to the diet of the sick. Dr. Kay could see no other alternative than to import a medical man from London or some distant district, 'though the necessity for such a step would be regarded as a misfortune'

This part of the evidence suggests several important queries; for instance—Should the medical officer be compelled, under pain of dismissal, to adapt his mode of practice to the opinions of his unprofessional employers? Should his inadequate remuneration expose him to the suspicion of ordering meat and beer, instead of expensive tonics and stimulants? On the other hand, should the guardians be compelled to furnish the precise amount of diet which any medical officer might see fit to prescribe? Should the latter, in fact, be constituted the *absolute* dispenser of parochial relief to the sick?" 51.

Here the shoe pinches. If the medical officer is not paid the cost of drugs, is he to do that by physic at his own expense, which may be done by beef and beer at the expense of the parish? We protest that he is a fool if he does so. If the parish screw him, let him screw the parish. That is the lex-talionis, the law of nature. Then see how, in an economical point of view, the matter stands. The medical officer, being badly paid, doles out insufficient medicine and attendance. The case is prolonged. The weakness that supervenes on acute or waits on chronic disease is aggravated, and then the parish pays in bread and beef and beer. That this has been the history of many a case we do not entertain a doubt, nor do we hesitate to prophesy that if the present scale of medical remuneration is persisted in, the rate-payers will be losers rather than gainers by it. Where there's a will there's a way, and if the medical practitioners are treated as they have been, we are much mistaken if a mode is not discovered of taking revenge.

Dr. Kay's threat is that of an old woman. What does it signify where his pet doctor is procured? The system is bad, and protégé of the commissioners or not he feels it so. Is it likely that an adventurer without money and without principle would be slow at expedients to reimburse himself? Why, that is the very man who would be most inclined and indeed compelled to resort to them. No, Dr. Kay. The way to ensure moderation and fairness is to practise them. And depend upon it, that if you do not, the natural order of justice that seems established in the world will in some irregular fashion vindicate itself. If the rate-payers remunerate the medical officer he will act considerately by them. But if they wrong him, they may depend on it they will have no great reason to chuckle.

One word to our medical brethren. We advise them not to curry favour with the guardians. Let them report manfully every abuse. If they do not, they will get the devil's pay and the devil's thanks, and have the pleasure of finding themselves the first victims. Let them remember the Seven Oaks Union. If, then, there is over-crowding, insufficient clothing, imperfect or improper nutriment, proclaim it. Let there be no squeamishness in advising good rations and stimulants if necessary. If the union won't pay for physic, let it pay by all means for food.

The tenure of office, by annual contract, has been a source of complaint. It was looked upon as tending to diminish the value of union appointments in the estimation of respectable practitioners, and to discourage a zealous performance of duty. It was likewise shown to be irreconcilable with the principle so generally admitted, that a public officer should continue to hold his appointments "*quamdiù se bene gesserit.*" Even Dr. Kay, in apparent forgetfulness of these considerations, suggested that workhouse appointments, "being deemed desirable by the profession," might be held *in rotation* by several medical gentlemen during the year. But there appeared to the committee no sound reasons for depriving the poor of a medical attendant who had obtained their confidence, and had properly fulfilled his duties.

Without pretending to limit the duration of the appointment to one year, rather think that the term should not be a lengthened one, supposing the office were made, as it should be, a desirable and honourable one. To

give it to one person, however meritorious, to the exclusion of his competitors would smack of monopoly and partiality. We think that all should enjoy the appointment in their turn, although we conceive that that turn should not come round too frequently.

The commissioners in this, as in every thing else, asserted their right to display the most despotic caprice. In April, 1836, Mr. Secretary Chadwick, in reply to an inquiry of Mr. Wetherhead (a candidate for a medical office in the Strand Union) stated, "by order of the board," that the appointments of paid officers are *not* annual, but during good behaviour, &c. The same official personage, in April, 1837, informed Dr. Webster, also "by order of the board," that the appointments of medical officers are annual. We suppose that these bashaws do not think it necessary to explain or justify these opposite sic volo sic jubeo decrees.

The next point to which we shall advert is the formation of medical clubs. The crooked policy of the commissioners is well set forth in the report before us.

"Their main object appears to have been gradually to restrict the administration of medical relief within the same limits as relief in money or kind. In order to effect this, they found it necessary to induce or compel that numerous body of semi-paupers, which had been long accustomed to the former species of relief, 'to provide for it themselves.'

Besides the many *indirect* means adopted to attain this end, such as districts of large size, medical officers previously unknown in the locality, and inadequate remuneration, already noticed, there were some of a *direct* kind, the first of which, and the simplest, was the restriction of medical relief to a smaller number, by refusing 'orders.' Mr. Gulson admitted that, in the pauperised districts, 'not one-half of the people were attended that used to be.'

In many unions the disposition to deny relief was favoured by the adoption of a payment per case; a mode of remuneration which made it the interest of the parish authorities, and the duty of the relieving officers, not to grant orders for medical attendance, if they could avoid it.

As may be supposed, the consequences of such a system were frequently serious, and even fatal. They were only partially and occasionally mitigated by the inclination of the poor to seek gratuitous aid, and the humane readiness of the profession to bestow it.

Many of the sick poor were therefore left to the natural progress of disease. Yet Mr. Gulson did not hesitate to assert, that the authorities exercised their discretion with regard to medical relief 'humanely and very liberally.' How is this to be reconciled with his admission just quoted? Even were it expedient to refuse *one-half* of the former recipients that assistance to which they had been accustomed, most certainly it was neither 'liberal' nor 'humane.'" 54.

The dirty scheme of the commissioners is palpable. First they insult and injure, in every way, and by all their arrangements, the medical profession—then they endeavour to deprive the pauper so far as they can of the ill-paid and often inefficient advice they have procured for him—and, lastly, they throw on the charity of the profession those to whom their own is denied. Anything more paltry than this cannot well be conceived on the part of public functionaries. And what right has the state or the state's salaried servants to presume in this fashion on the charity of any class of men? Our charity (it is notoriously great) is our free-will gift—it is not the creature of compulsion, nor is it meet that it should be. If we choose to exhibit it, good—the feelings that it gratifies are its reward.

But even charity must not flow at the bidding of those who make a market of it, and justice, above even charity itself, commands us in such a case to hold our hands.

But we do the system wrong. In some unions orders for medical relief were given in less niggard fashion. Yes, they were distributed with liberality wherever the contract was at a fixed sum, and where any increase in the number of orders was not followed by a proportionate addition to salary.

It was remarked by one of the medical witnesses, that "where a fixed salary is adopted, the orders are given so freely that a proper discretion is not used with regard to the circumstances of the parties who receive them."

The next method of providing medical relief for the poor, at the expense of the medical men, was the establishment of medical clubs. The commissioners being bent, by hook or by crook, to reduce the price, and we may fairly add, the quality of medical relief to the poor, found it difficult to wheedle the profession into so suicidal an arrangement. They soon, however, devised the means of overcoming this obstacle. By making the establishment of a club one of the conditions of a medical contract; by determining the rate of remuneration in that club, and by threatening to appoint a stranger in the event of objections, they succeeded, in some places, for a time in carrying their point. It appears, say the reporters, that the guardians hoped to secure a twofold advantage from the establishment of a medical club: first, by admitting a class of poor subscribers, they might get rid of a number of applicants for medical relief: and secondly, by annexing the independent club to the pauper contract, they might increase the importance of the appointment, and reduce the terms of the contract.

Such was the view with which medical clubs were established. These poor-law commissioners and their creatures would almost seem to have conceived a malignant spite towards the profession, and to have racked their ingenuity to affront and injure it on every side. First they cut down the remuneration (it is farcical to use the term) for medical attendance upon paupers. Secondly, that not being wrong enough, they clapped on it the additional one of endeavouring to compel the class above the pauper to pay for medical attendance in the same coin. Now observe how this was effected. Mr. Power states in evidence:—"In the parish of Kirtling, the doctor's salary, including every thing, was formerly £15. per annum. The union now only pays him £5. i. e. 2s. per head for fifty individuals on the permanent sick list; but there are eighty families, subscribers to the independent club, which, at 4s. per family, adds £16. to the medical officer's stipend: *he* therefore gains £6. by the alteration, and *the parish* £10. There are other parishes where the plan succeeds equally well for all parties; and I observe that in those parishes *where the medical officers are ill paid*, either no pains have been taken by the guardians and parish authorities to form independent sick clubs, or the poor have themselves formed them, and appointed the doctors to whom they had hitherto been accustomed, instead of the medical officers of the districts, who may happen to be most popular. *This latter practice is certainly some drawback to the means of remunerating the medical officers of the union.* The boards of

guardians can, and of course do, recommend *their own* officers to the independent clubs; but beyond that, it would be very impolitic to interfere."

The guardians thus endeavoured to apply the contributions of the "independent" poor to the payment of the union medical officer, who was required, by his contract, to furnish medical relief to the contributors. Yet did the commissioners describe it, as an effort of the poor "to provide, *out of their own resources*, good medical attendance in case of sickness."

These "resources" were evidently *not* "their own;"—"the actual means of obtaining medical relief do not come from the poor," when a certain system, to which they are virtually compelled to contribute, is forced upon their medical attendants.

The small sum, paid periodically by the "independent" members, was not the price of medical advice, but *a sort of composition*, which exempted them from the serious delay and annoyance of seeking an order from the relieving or parish officer, to which the other paupers were subjected. Their real dependence on the guardians and on the medical profession continued as before; "they were obviously still *paupers*, as every one must be who is dependent for assistance on the expressed or implied condition of a parish contract."

Again, then, a dirty scheme—professing one thing, effecting another—charity on its lips—tyranny in its operation—zeal for the independence of the poor its avowed, economy at the profession's expense its real object. First, the labourers are coaxed or bullied into forming (save the mark!) an *independent* club—then the medical men are told that if they do not officer the club, that is, be out of pocket for it, there shall be a "tender," and "a talented young man from London,"—then if the unhappy doctor is frightened into attending the club, his union pittance is reduced to its minimum or kept there. If this is not, in a small way, tyranny, we do not know what is. For look at the remuneration to be got from these clubs. In a circular, the commissioners proposed as the minimum contribution, 3s. per annum for a single person; 4s. for a man and his wife; 1s. 6d. for the first child, and 9d. each for the other children. The aged and infirm parents, and the idiots and cripples of every age, were to be paid for as children. Mr. Power, likewise, recommended the same scale, with this difference, that each child was only to incur a payment of 6d. per annum, and every person in the same family, above the age of sixteen, 2s. per annum. The average contribution per head in large families would thus vary from 1s. 2d. to 1s. 6d. The infirm and the helpless were insured at a lower premium than the able-bodied and healthy. The greater the liability to sickness, the smaller was the contribution. A man with a large and sickly family subscribed per head less than half, or one-third, of the sum paid by the healthy labourer, who was thus made to contribute indirectly to his neighbour's relief.

If this is not pauperism of the shabbiest sort, what is it? It is cheating the pauper into the belief that he is not a pauper, a thing possible with some thick-skulled chawbacon, and trying to cheat the doctor into the belief that he is paid. But the flam is too palpable for the latter to be gulled, and he is forced to close with a bad bargain secretly resolved to evade it. The poor then, again, are the sufferers; and again they have to thank the

penny wise and pound foolish system which presses on them. The reporters remark:—The principle of the clubs is that of "a contract between the poor and a medical person, without any one to protect them. The amount of duty performed, and the cost of medicines furnished, are never made known; the medical officer is the irresponsible receiver of the payments of the poor. The results of this plan therefore, with regard to the treatment of disease and the rate of medical remuneration, are concealed. If the surgeon be humane and honest, he would probably consider it derogatory to his professional standing to acknowledge the ridiculously small sum received for his visits and medicines; if his character be of an opposite description, he would of course refuse to divulge the injustice and neglect which in many instances his patients had endured."

The object of the clubs, however originating, is to depress the scale of medical remuneration—the club itself is a combination against medical interests. It is very well for the fashionable physician or consulting surgeon in extensive practice to smile at these annoyances of their less fortunate brethren. But what is sport to some is death to *them*. Derived from the less affluent classes, their income is seriously threatened indeed by combinations and clubs. Look, for instance, at the rate of medical remuneration in some of the most flourishing self-supporting dispensaries. The average cost per case for medicine and medical appliances, surgeons' and dispensers' salaries, was in the Coventry Dispensary (six years) 4s. 5d.; in the Burton on Trent, (two years,) 4s. 5½d.; in the Derby, (six years) 3s. 4½d. It is scarcely necessary to remark, that these sums form no approach to a remuneration, even in dense populations. How, then, can they be recommended in rural districts, where area and distance have to be considered?

In Leeds, not long since, the society of "Odd Fellows," 13,000 strong, advertised for medical officers from London, because their former surgeons would not consent to attend them at 2s. 6d. per head per annum.

We hear a great deal of the atrocity of the combinations of workmen, and of their dictation to the masters. But this virtuous indignation all evaporates and disappears when such combinations and such dictation are addressed to the medical profession. Its services are not entreated, but demanded with circumstances of injury and offence in the hour of sickness and distress.

The natural consequences have followed. On the one hand discreditable competition — on the other, unpleasant though necessary combination. By appointing only one surgeon to attend a club, competition of a most discreditable kind has been called into action, and, no less than under the "tender" system, the honour of the profession has been unscrupulously sacrificed to the interest of the individual. In the same locality might be seen several surgeons, having their separate clubs, contending who should demand the lowest rate of subscription, and disgracefully canvassing for members. And thus institutions, professedly designed for the benefit of the poor, became instruments of degradation to the profession. But bad as combination may be, it is preferable to competition, and to combina-

the profession must be driven, if such serious inroads on its interests

reatened by poor-law unions aud poor-law clubs. And they are fools

or worse, traitors to themselves and to their brethren, who desert a combination so defensive and so necessary. Depend on it that in combination, pursued with steadiness, and based on nothing but what is equitable, lies the sole security of all. As the reporters observe, the establishment of a medical relief society should be the act of a *united* profession;—of the medical corps in each locality, not of individual practitioners.

We pass over one branch of this entangled subject, or, at all events, intricate report, that, we mean, which contains the suggestions offered to the parliamentary committee by the medical witnesses. But we cannot conclude without quoting the closing remarks of that committee, in *their* report to the House of Commons.

"Your committee," said they, "from a feeling of respect for the medical profession, and believing that their attendance on the poor has been marked by great liberality and humanity, are anxious that the suggestions which have been made by them should be favourably considered by those who are charged with the administration of the law. They recommend the evidence which they have received on this subject to the attention of the poor-law commissioners; and they cannot but hope that arrangements may be made to remove some of the objections reasonably entertained to the present practice, and to put this branch of relief on a footing which shall be satisfactory to the medical men, and be conducive to the comfort of the poor." 80.

Many of our readers may have had occasion some time in their lives to have waited on a man of distinguished rank. They must have felt the difference between the looks and the address of the great man's porter and the great man's self. The former, all consequence, impertinence, and strut, seems to say "what the devil do *you* want here?" The latter displays the affability of a gentleman, and exhibits the surest indication of his rank by his disinclination to assume it. The contrast between the house of commons and the poor-law commissioners is just as marked and just as ridiculous. The members of the house of commons are gentlemen and act as such. The commissioners and the greater number of their understrappers have exhibited all the arrogance of a parish beadle, without the set off of his portly person, jolly nose, and laced cocked hat.

It is a common adage "as the old cock crows, the young one clucks." Born of the Whigs the Poor-Law Commissioners display the defects which have ruined the Whig Ministry, if not the Whig party. Whatever may have been the merits of that ministry, their warmest friends must admit their want of discretion, capriciously harsh, carrying out of abstract principles, and strange combination of obstinacy and trick. These traits have characterised to a remarkable degree the Poor-Law Commissioners. Their indiscretion has been shown in irritating the poor and the profession too by their arrangement of the districts and the Tender System—their capricious carrying out of abstract principles in their contradictory methods, of enforcing their crotchets in different parts of the country, agreeing notwithstanding in one thing, being always arbitrary, insulting, and oppressive —their mingled obstinacy and trick, in pushing their arrangements under various disguises, and appealing to the results of fraud or intimidation, as conclusive evidence of success and satisfaction.

The "proof of the pudding is in the eating," and a very pretty pudding the Commissioners made of it. The poor hated their name—the medical

profession were at daggers drawn with them—and a committee of the Commons House of Parliament quietly but explicitly condemned their system.

Now what did the Commissioners under these circumstances? Did they acknowledge their error, did they retrace their steps, did they conciliate opinion, did they bow to the decision of a parliamentary committee? Not at all. They took to their old course of shuffling and equivocating, and produced a Report intended to set them in their proper light of benefactors to the poor and friends to the profession.

So the commissioners being anxious to obtain the truth, and nothing but the truth of course, applied for it—to whom? To the paupers and the medical men? or to the aggrieved parties? Just the reverse. They applied to their own instruments, to the very people who were implicated. They asked them if there was dissatisfaction, if there was wrong, if things were not as they should be. Just as if we were to send a penny post letter to the gaoler to ask if the prisoner was treated kindly. We may guess the gaoler's answer, and we may guess the answer of the assistant-commissioners and guardians. Really, Messieurs Commissioners, you must think the world made up of excessive ninnies, to swallow anything so gross as this.

And yet even the assistant-commissioners could not wholly gloss over the discontent.

"Seven of the assistant-commissioners have furnished the substance of the replies made by 242 unions, which, being situated in different parts of England and Wales, may be supposed fairly to represent the whole number hitherto formed. Of these 242, dissatisfaction is reported in sixty, on account of the low rate of medical remuneration; in thirty-one, on account of the size of districts or distance of paupers from medical advice; and in thirty-three, on account of neglect or inattention on the part of the medical officer.

So large an amount of dissatisfaction being admitted by those most anxious to conceal it,—it is difficult to comprehend the statement of the central board,—professedly founded on these returns, that 'there is *but little* dissatisfaction prevailing in reference to existing medical arrangements.'" 83.

It is not difficult to admire the imperturbable impertinence of these commissioners. The medical profession come forward in every way and publicly express their discontent and grievances—the poor, pretty unequivocally, express the same—their own agents and creatures employed in a sham inquiry report open dissatisfaction in one-fourth of the unions they report from, and in the face of all this, the commissioners very coolly publish a book, for the purpose of asserting that there is "*but little* dissatisfaction." What would these people have? Will nothing short of an émeute convince them? Must we meet with naked arms and brandished catlins, and swear revenge or death? We tell the commissioners in so many words, the profession detest their measures. Surely that is enough. But no, the commissioners insist that we are very fond of them, and that they know our interests and our feelings better than we do ourselves.

But after this report of little dissatisfaction, come the recommendations of the commissioners, their small reform bill.

The particulars in which the commissioners profess their readiness to amend the medical arrangements are the following.

1. That the system of tender should now be abandoned.
2. That annual medical contracts should cease, and the union surgeons

be appointed, as chaplains, clerks, and other paid officers are, for an indefinite period.

4. That the salaries should be computed on an annual list of the *regular* paupers, and on the separate illnesses of the *casual* paupers.

On this point, however, the commissioners differ from the parliamentary committee, Dr. Kay, and the medical witnesses, in confining the advantages of the pauper list to those in the actual receipt of general relief: also, in comprising the paupers of an entire district of several parishes in one list; thus imposing a uniform rate on parishes at different distances from medical advice.

4. That the remuneration for the pauper list should amount on the average to 6s. or 6s. 6d. per case, "subject to be augmented if the district is extensive;" and that the payments for those not included in the pauper list should be on a somewhat higher scale; "but the commissioners are inclined to think that it will not be found necessary to exceed 10s. per case."

"Midwifery and surgical operations of a serious character to be paid for by a separate charge for each case."

What merit there may be in these recommendations, is to be placed against a respectable *per contra*.

Amongst other things, their report endeavours to set aside, or to weaken the force of, several important recommendations of the parliamentary committee and the medical profession with respect to the extent of districts.

The commissioners assert that no rule or scale of limitation could be generally enforced; and that the division of the union into districts must, as now, be left to the uncontrolled discretion of the guardians.

On this the committee of the association observe;—

"The distribution of parochial duties must not be abandoned to the caprice of the guardians, who require, as many of them have confessed, some rule to guide them, in making a judicious medical division of the union.

Your committee object also to the main principle laid down by the commissioners for regulating the extent of districts, which is, 'that they should be sufficiently large to engage an important portion of the time and attention to the medical officer; and to create those responsibilities, those personal and pecuniary interests in the continuance to hold the office, which stimulate the officer to the efficient performance of his duty.'

Now in your committee's last report, the responsibilities and personal interests involved in sedulous attention to the poor of a small district are shown to outweigh those connected with a large one.

If, by 'an important portion of time,' &c., the commissioners mean a portion so considerable as shall preclude the medical practitioner from devoting his principal attention to private patients, their system will inevitably fail. For, since the salaries of union surgeons necessarily fall far short of the ordinary rate of professional remuneration, and are utterly inadequate to their maintenance, they are compelled to make private practice their first object, whether they are established practitioners, or are seeking for more lucrative employment, by means of the introduction resulting from the union appointment.

The wisest course, then, for the administrators of the law would be, not vainly to oppose this obvious and natural tendency, but to frame their plans accordingly; and to entrust to each medical officer no more ill-requited duty

than he can properly perform with justice to his family and his professional station.

Your committee are confident that the greater the facility afforded to the medical officer, by small and convenient districts, for the performance of his duty, the stronger will be his inducement to hold office." 98.

To this we cordially assent, and it is impossible for any one not to feel indignant at the pertinacity with which the commissioners cling to arrangements reprobated by all but themselves. They may depend on it that, be they as obstinate as they may, they will fall, as their betters have done, in the war against public opinion. Nor will all their sophistry and shuffling save them. The unfitness of these men to superintend medical arrangements must be gross, when they can contend that, with the miserable pittance allowed for his professional attendance, the medical practitioner's time should be fully taken up with the paupers! Were it so, that same medical practitioner would infallibly soon be a pauper himself. It is strange that the commissioners should take such pains to write themselves down asses.

And can it be believed that the commissioners, after (on paper) abolishing the tender system, have the effrontery to defend it! If it is right, it should not be given up—if wrong, it should not be justified. Perhaps the commissioners insinuate that it *is* right, but they merely yield to prejudice. Rare commissioners, who alone possess the gift of wisdom, and before whom, all other men are but an ignorant rabble. Such is *our* benighted state that we desiderate that general ignorance rather than the precious learning of these Daniels.

But there is one insolent passage of their Report to be noticed.

" "We do not mean to cast any reflection upon any particular person or class of persons; but we only state what might naturally be expected of any large body of men, when we say that their judgments were likely to be biassed against a new system by which their profits were lessened, their power curtailed, or their habits broken, and that they were likely to condemn it on slight evidence, and to give a ready acceptance to *ex-parte* statements unfavourable to it.'

It should, however, be remarked, to the honour of the legal profession, that although their profits were materially diminished by the reduction of poor-law litigation, consequent on the new act, they have never taken any prominent part against the measure, or used the great abilities and influence which they possess for the purpose of discrediting it.'" 101.

The calumny upon the medical profession is only exceeded by the gross puff upon the legal. And by a lawyer it is written—his modesty being surpassed by his candour, and his candour by his independence. The law more generous, more humane, more liberal than physic! *That* was a discovery reserved for the commissioners. It is not medical men who are constantly presenting their gratuitous services to the needy and afflicted; no, it is the lawyer, good Samaritan! who is the friend to the distressed, the unpaid advocate of the poor, the liberal benefactor of all. Hence it is, perhaps, that his character in these respects stands so high—that his name is ever and popularly associated with all that is benevolent good and kind. Gentle Chadwick, and thou art the impersonation of benignity of the profession. We doubt not that in these pinching thou wilt gladly resign half thy salary, and, without remuneration,

as thou beneficently wishest us to do, devote *all thy* time to the paupers whom thou lovest, as Isaac Walton loved the frog he was impaling.

The absurdity of this libel is too palpable to render it necessary to reply to it, and yet we cannot altogether pass the sophistry of it. For the new poor-law simply took work away from the lawyer, whilst it made the medical man *work at a loss*. Two very different things. The one could not with any face complain. The other could not, if a man, be silent, especially when the insult of upstart officials was superadded to the injury. Let lawyers be so treated, and we venture to say there is *vice* enough in that meek profession to kick.

To make the case complete, it is necessary to advert to the *present* state of medical relief in England and Wales.

In September, 1840, the commissioners stated, in reply to an inquiry from the British Medical Association, that "they have hitherto perceived little disposition on the part of the boards of guardians to adopt their recommendations." And yet they hesitate to convert these recommendations into positive regulations.

The same disinclination of the guardians to amend their system is evident from the last (7th) annual Report of the poor-law commissioners.

It appears that a circular was addressed to the guardians in March last, inviting their attention to the previous suggestions of the commissioners, and inquiring as to the efficiency of the medical arrangements.

The replies from 117 unions (contained in that Report, p. 9) shew that the guardians, as on a former occasion, are for the most part perfectly satisfied with their own proceedings, and, in many instances, express their decided objection to any alteration.

In 48 of the 117 unions the guardians state their opinion that the districts are "not too large;" in 8 or 9 only do they profess to be ready to re-consider this point; in 60 they afford no information respecting the medical districts.

In 15 of the 117 unions, the guardians confess that the practice of advertising for tenders is still continued; in 12 only have they discontinued it; in a few it has never been adopted; but the majority of these unions make no return as to the continuance of appointment by tender.

A considerable number object to the "payment per case and pauper list," but without assigning their reasons.

It is highly improbable that the commissioners have selected the replies from these 117 unions to the prejudice of their system; it may therefore be fairly concluded that the remaining four-fifths of the unions in England and Wales would afford, to say the least, an equally unfavourable picture of the present medical arrangements.

The absurdity, then, of leaving the future administration of medical relief to the "improving care" of the guardians, is no less palpable than the necessity for legislative interference.

The Committee continue to receive information of medical districts so extensive as to incapacitate the medical officers for the proper performance of their duties, and to deprive the distant paupers of prompt relief: also of the selection of medical officers by tender, and of the appointment of imperfectly qualified practitioners.

One of the most flagrant instances of the "tender system" lately oc-

curred in the Greenwich union, where the disgraceful pecuniary competition, on the part of the numerous medical candidates, and the low intrigue on the part of the guardians, exhibit in its worst aspect the "moral degradation" attendant on the system.

Other instances, recently recorded in the medical journals and provincial newspapers, might, if necessary, be cited; but the reports of the commissioners are quite sufficient to prove the continuance of abuses.

The same unexceptionable authority may be appealed to for proof that no general increase has taken place in poor-law medical remuneration since 1837.

The total expenditure in medical relief for the year ending March 25, 1840, is stated at £171,781.

This would scarcely afford 2¾d. per head on the population of 1831, and somewhat less on the real population of the year; while Mr. Farr shewed that, in 1837, the ratio of medical salaries to the population of eight counties was 3¼d. per head.

So with regard to general expenditure for the relief of the poor in England and Wales, amounting to £4,756,965, the proportionate cost of medical relief in the same year was only 3.34 per cent.; whereas, in 1837, the proportion was calculated by Mr. Farr at 3.6 per cent.

It remains for us to notice the remedial measures proposed to be laid before the Parliament. The plan is in some sort engrafted on the Bill of Mr. Sergeant Talfourd. The following are its main provisions.

Clause A provides for the appointment of a medical "director," to superintend the medical department of the poor-law administration, subject to the approval of the commissioners.

This the committee think essential. We believe there would be some advantages in it, but we think it unlikely that such an appointment will be assented to by either Government or Parliament.

Clause B relates to the extent and population of districts.

It provides that no district shall include a larger population than ten thousand persons.

That districts of greater area than eight thousand acres (*about twelve square miles*) shall not include a population of more than four thousand persons.

That districts of greater area than one thousand acres (*about one and a half square mile*) shall not include a population of more than six thousand persons.

That districts of area less than one thousand acres may contain a population not exceeding ten thousand persons.

Clause C relates to the pauper list. A quarterly revision is proposed, and a division of the claimants of medical relief.

Clause D relates to remuneration, and provides that the amount of such remuneration shall depend upon the average of the several quarterly numbers of persons whose names shall be on such list during the said ensuing year or any quarter thereof; and such rate of remuneration shall not be less than three shillings, nor more than four shillings for each individual of such average number.

And the said amount of remuneration, so determined, shall in the case of every parish in which the medical officer appointed to attend it shall reside, and from which his residence shall be distant one mile, be

augmented by the addition of one-fourth part for every mile of distance between the residence of such medical officer and the nearest part of such parish, such distance to be computed by the course of the nearest public carriage-way.

And further, the said amount of remuneration, determined as aforesaid, shall in like manner be augmented by the addition of one-fourth part in the case of every parish, the area of which shall exceed two thousand acres. The committee observe :—In determining the rate of payment per head, the annual number of cases of illness and accident occurring in a given pauper population was estimated at about 67 per cent.

The annual sum for each *pauper* would thus be two-thirds of the average cost of medical attendance for each *case*. Now this, as regards the "regular" paupers, had been calculated by the medical witnesses at 5s., exclusive of the items of area and distance; the rate per head would therefore be equivalent to 3s. 4d., or a sum between 3s. and 4s., according to local circumstances.

The mileage charge would, doubtless, induce the guardians to commit the poor of the respective parishes to the nearest duly-qualified practitioner, and would thus aid the operation of clause B, in diminishing the extent of districts.

Clause E provides for the medical relief of the casual poor. It is proposed that each order should incur a payment of not less than 6s. nor more than 8s.; that is, *one-fourth* higher than the estimate for the cases of permanent paupers. And that the increase for distance should be in the same proportion as in the pauper list; viz. one-fourth (from 1s. 6d.) to 2s.) additional for each mile.

"A reduction in the payment per case is proposed for cities and towns containing more than 10,000 inhabitants—a minimum of 4s. and maximum of 5s. being considered applicable to the circumstances of such populous places.

This clause contains a provision for empowering the parochial clergy to grant orders for medical relief, in addition to the parties authorised to perform this duty at present." 108.

But these orders are merely *as a loan* until the next meeting of the board of guardians who may allow or disallow them.

Clause F refers to the remuneration for workhouses. It provides that the amount of such remuneration shall depend upon the average, of the said ensuing year, weekly numbers of inmates of such workhouses, and shall not be less than 4s. 6d. nor more than 6s. for each individual of such average number.

Clause G enacts, that if by virtue of any order to be hereafter made by the poor-law commissioners, the guardians of any union shall think proper to provide medicines and other necessaries appertaining to medical relief, for the uses of the pauper patients of their union, paying competent persons to prepare and dispense the same, and appointing medical officers for the sole purpose of attending and prescribing for the poor of the union who may be sick or suffering from bodily injury; the said guardians shall in such case deduct one-half from the remuneration hereinbefore directed to be paid to the medical officer, exclusive of and without the affecting the augmentation made as aforesaid, on account of the extent of any parish, or the distance of such parish from his residence.

Clause H relates to the payment for attendance on difficult or protracted labours. It was at first proposed that the sum should be one guinea. But the committee have felt it due to the general opinion of the profession to alter the amount to two guineas.

Clause I provides a proper remuneration for serious surgical operations.

Clause K enacts, that the medical officer of every district shall, on or before the 25th day of March in every year after the passing of this Act, transmit to the medical commissioner a district report, stating the number of persons who shall have received medical relief during the preceding year within his district, the expenses of such relief, and the proportions and manner in which such expenses have been or will be defrayed, the distance of his own place of abode from the most remote inhabited part of his district, and if he shall not reside therein, in addition to such particulars as aforesaid, the distance of his place of abode from the nearest inhabited part of such district, and all such other matters as the poor-law commissioners shall by their orders from time to time require to be included in such district report.

And that the medical commissioner shall once in every year prepare a general report, comprising the substance of such district reports, and all proceedings of the poor-law commissioners relating to medical relief in such year, and cause such general report to be annexed to the annual report of the poor-law commissioners, in order that the same may be submitted therewith, to one of the principal Secretaries of State, and laid therewith before both houses of Parliament.

A provision is added for the payment of one guinea to the medical officer for each annual district report. As it would be impossible to enforce in every union a regulation compelling either the medical officers to reside within their districts, or the guardians to allot each parish to the nearest medical practitioner, it was considered essential that, in these reports, the extent of districts and the number of non-resident medical officers, should be annually brought under the cognizance of the Government and of Parliament.

Clause L provides that it shall be unlawful for the guardians of any poor-law union to attempt, by advertisement or other public notification, or in any manner whatsoever, to obtain tenders or offers relating to the remuneration specified in this Act to be given for the performance of the duties of medical officers, or to be received under any contract made, or to be made, according to the provisions of an Act of Parliament passed in the session of the third and fourth years of the reign of Her Majesty Queen Victoria, entituled, "An Act to extend the Practice of Vaccination."

Clause M enacts that no person shall hereafter be eligible to receive the appointment of medical officer of any district, not being duly qualified to practise as a surgeon and physician, or as a surgeon and apothecary, nor until he shall have been in medical and surgical practice, as principal or assistant, for a period of two years, unless at the time of passing this Act he shall have been in actual practice as a surgeon or apothecary for a period of five years.

The committee observe, in reference to their Bill, that objection has been taken to its length, many provisions, and complexity. But they reply that—

"Strongly impressed with the advantage of producing a simple measure, and fully aware of the difficulty attending any attempt to define the remuneration—preferring also a judicious system of administration to legislation on matters of detail—your committee could have wished that Mr. Serjeant Talfourd's original clauses had been cordially and promptly supported by the whole profession. Under such favourable auspices, there would have been a reasonable prospect of their ultimate enactment. It was the denial of this general and vigorous support which led to the construction of the present clauses; and, however undesirable their length, repeated trials have convinced your committee of the utter futility of all attempts to determine, by one or two brief propositions, the various particulars of parochial remuneration, *on the principles indicated in the Report of the Parliamentary Committee.*" 110.

The Reporters do not conclude without a strong protest against both the construction and the working of the Vaccination Act. After setting forth the manner in which it was carried through both Houses, in spite of the opposition of the profession, an opposition unaided by the medical corpoations, they go on to remark :—

"The operation of the act fully justified the apprehensions and predictions of your committee.

The poor-law commissioners at once proceeded to limit the ordinary remuneration of the district vaccinators to *eighteen pence* for each successful case.

Your committee are prepared to admit that, under the former poor-law, the payments for pauper vaccination did not on the average exceed the present inadequate amount. And it is certain that but few unions, under the new poor-law, afforded a higher payment than that now proposed by the commissioners. Vaccination was in fact generally included in the gross medical salary; and to this circumstance, as well as to the negligence of the boards of guardians, may be partly attributed the increase of small-pox within the last few years.

It should, however, be remembered, that, prior to the Vaccination Act, the parochial or union authorities contracted for PAUPERS only, and for such of the working classes as were considered too poor to pay for vaccination.

Now, the privilege of gratuitous vaccination is extended to all who choose to apply for it, without reference to their circumstances or station; and the amendment (so called), which has just received legislative sanction, has removed the pauperising tendency of the gratuity.

It cannot, therefore, be matter of surprise that many who had been accustomed to pay their usual medical attendants for vaccination, sums varying from half-a-crown to half-a-guinea, should avail themselves of the new act, and apply to the public vaccinators.

The reduction in medical remuneration, which the commissioners have thus effected, is severely felt, not only by the bulk of the profession, but by the district vaccinators themselves, in consequence of their being required to furnish complicated weekly schedules, a quarterly registration of cases, certificates, and copies of register, which demand more than double the time and attention necessary for registration on a simpler plan." 114.

But all this is so much of a piece with the conduct of the commissioners throughout, as not to excite surprise. The consequence of this penny-wise economy will be that the Vaccination Act will end in smoke, as far as the suppression of small-pox is concerned. Men who believe they are ill-treated, will never be hearty in a cause.

STATISTICAL REPORTS ON THE HEALTH OF THE NAVY, FOR THE YEARS 1830—6 INCLUSIVE.—Part II. (Cape of Good Hope—West Coast of Africa—East Indies—Home and various Forces.) Together with the Totals for Seven Years throughout the Service. Folio, pp. 339. 1841.

THIS Report is not less valuable or interesting than its predecessor, of which we gave a full account at the time. The Reporter is entitled to the greatest praise for the vast labour which he has expended on these returns, and the clear judgment which he has evinced in their arrangement, as well as in the numerous remarks and reflections interspersed through his pages. These statistical reports compel us to unlearn a great deal of what we thought to be Gospel heretofore—and to admit as truths many statements which a few years ago we would have treated as fictions. Thus the comparative salubrity of the home and of foreign stations upsets many of our favourite dogmas and doctrines, so long cherished as unerring axioms!

"Notwithstanding the remarks which have already been made on the sanatory influence of the South American climate, it may be permitted to glance at it again, on account of its singular and unexplained power, at least in its operation on board ship, to which alone these observations apply. Compared with the climate of the British channels and ports, it appears, drawing conclusions according to prevalent hypotheses and accepted dogmata, to have almost everything against it. Most of it is within the tropics. A great portion of its shores is still in a state of nature; all of it is teeming with vegetable and animal productions growing, or decomposing, rapidly. Rain falls in torrents at intervals in many places; and evaporation, atmospheric heat being intense, proceeds rapidly. High winds are rare; calms are common. Yet with all these apparent elements of disease and destruction, the mortality of the squadron employed there from 1830 to 1836, was less than in the force employed at home during the same period. Compared with other tropical positions, particularly the coast of Africa and the West Indies, nothing appears in its favour; compared with the latter, something in the natural condition of the soil and its superabundant products, appears against it; yet its mortality is not one-third part so great. These things, and others of similar import which might be cited, show the ignorance which generally prevails on the subject of climate as affecting health; and that much must be unlearned, as well as learned, before anything deserving the name of knowledge shall be obtained on this very interesting subject." v.

It is curious to compare the statement with the frightful mortality by scurvy on the same station, in the days of Anson. It has been confidently and currently believed that the disasters of the Centurion were owing to the want of lemon-juice—an error which Dr. Johnson long ago pointed out in his work on Tropical Climates, and which, we rejoice to see repudiated by the able reporter of the work before us.

"It may be affirmed safely, because much observation, and the inherent nature of things,—the necessary relation of cause and effect,—bear testimony to its truth, that, if abundance of wholesome food, pure water, ample clothing, cleanliness and ventilation, as they now are, had at that time been enjoyed in the [illegible], without any aid from citric acid, the tremendous mortality then resulting scurvy, which half depopulated the ship, nearly frustrated the objects of

the expedition, and was, in some measure, an imputation on the character of the country, might have been spared." v.

Dividing the last 60 years into three periods, we find the ratio of mortality in the navy generally to be as follows: viz. in 1779, there was one death in every eight men employed, annually. In 1811, it was 1 in 32. In the period embraced by the present report (1830–6) the ratio of mortality was 1 in 72!!

On reading this, our first sensation is that of surprise—and next, of admiration at the wonderful pitch of improvement to which the economy of the navy has arrived—in discipline, food, clothing, ventilation, and every thing that concerns the health and comfort of our gallant tars! It must be remembered, however, that, during the seven years embraced in this report, we were at peace, and the seamen were volunteers—which makes a vast difference in the comparative health of this and the other periods.

I. CAPE OF GOOD HOPE AND COAST OF AFRICA. 1830.

The Cape station includes the eastern as well as the western coasts of that huge triangular peninsula, having the Mediterranean for its base, and the Cape itself for its apex. Over a great deal of this extended line of coast there is considerable similarity of climate—at least as far as temperature is concerned. Almost the whole is intertropical—but varying greatly in point of salubrity. This coast is infinitely more unhealthy than the Mauritius, which lies also within the tropics, but has the advantage of being an island, and at a great distance from the African main. That island, indeed, suffered severely from epidemic cholera; but this is no criterion of general salubrity or otherwise.

The mean force of 1830 was 1,578—number of vessels 23, mostly small, there being only two frigates in the whole. The principal duty was the prevention of the embarkation of slaves, and the pursuit of suspected vessels afterwards. This duty is a very harassing one, and attended with much anxiety and fatigue, as well as privations—circumstances, co-operating with an essentially unhealthy climate, which occasion great sickness and mortality. In the above year, 2279 men were put on the sick-list—being about the ratio of 14 to 10 of the crews. Thus some men must have been several times on the sick-list, whilst others were not at all so. Of the above number 57 died—being at the rate of about 36 in the thousand. There were also 104 invalided—or 66 in the thousand.

Great as was this rate of sickness and mortality, it was by no means so much as in some other years. The fevers, which are the grand causes of destruction on this station, come round, like Sir Robert Peel's bad seasons, in cycles, though very irregularly. The statistics, therefore, of one, two, or three years may be often found totally inadequate to the formation of a correct estimate of the mean ratio of sickness on the African, and indeed on many other stations. Of the 57 deaths in 1830, 41 were from fever. There were 250 cases in all—20 "ephemeral"—169 continued fever—45 remittent—and 35 intermittent fever. There is every reason to believe that all of the cases denominated "continued" fevers, were, in reality, remittents, the remissions being obscure.

In the "PLUMPER," with a complement of 50 men, there were 35 cases of fever, of which 24 died—a mortality so frightful, that it gives a melancholy idea of African fever, which, on this occasion, equalled the late ravages of disease in the Niger! The island of Fernando Po was found more destructive to life than even the adjacent continent, and has been abandoned as a settlement.

After fever, the bowel complaints were the most formidable enemies of the European constitution. These included diarrhœa, dysentery, enteritis—"all closely associated affections, one often running into the other so insidiously, and by movements so difficult to observe, that it was impossible sometimes to decide the exact limits of each, though there was great difference between their extreme points—diarrhœa being often the most trivial, and acute dysentery one of the most dangerous affections to which seamen are subject."

Of 66 cases of dysentery, 4 ended fatally, independent of two deaths from inflammation of the bowels." There were also six invalided, and nine sent to hospital, where three of the four deaths occurred. The dysenteric affections occurred almost entirely on the Mauritius station—the fevers on the African coast.

There were 27 cases of pulmonary inflammation, all of which were cured on board, except two cases which, becoming chronic, were sent to England. The rheumatic cases amounted to 75, seven of which were invalided. There were seven cases of phthisis—one of which terminated fatally at sea—two were sent to hospitals—and three were invalided—leaving one under treatment at the end of the year. Though these cases are comparatively rare on the Cape station, they run their course in a most rapid manner—showing the absurdity of sending consumptive patients to warm climates.

Thirty cases of liver disease were entered on the sick-list, including acute and chronic inflammation. Two of these died in hospital. One hundred and twenty cases of "primary venereal disease"—71 of syphilis, and 49 of gonorrhœa. Wounds, accidents, and ulcers were not formidable, though tolerably numerous.

1831.

The mean force employed, this year, was 1706—and the number of cases entered on the sick-list 2337—or 1369 for every 1000 men. Of these, 73 were sent to hospitals—82 were invalided—and 35 died, or 20½ out of every 1000 men.

It is evident that the mortality this year, as compared with the preceding year, was not great.

"The vessels on the West coast of Africa were employed in counteracting the operations of slave traders, in preventing the embarkation of slaves, or in following, and endeavouring to seize the vessels in which they were carried. For the first purpose they must keep close to the shore, particularly at the mouths of rivers, in creeks, and other confined situations, abounding in the cause of violent fever. For the second, they continue long and anxiously employed at sea, in low latitudes, exposed to high degrees of heat, with heavy periodic rains, living on salted food, much exposed in boats, and occasionally coming into collision with the slave ships. Such service is, as would be expected, prejudicial to health, often highly destructive of life; yet there are years in which the destructive power is not exerted. Such exceptions, often extending

over considerable spaces of time, occur in this and other unhealthy localities, perplexing, and too often discouraging the inquirer. The cause would appear to be evolved as abundantly as at other times, yet the effect does not follow. This apparent want of correspondence between cause and effect is apt to make the man who is endeavouring to trace and satisfactorily exhibit the entire chain of morbific and morbid action, the febrific cause and the febrile effects,—the first emanating from the spot where the last is excited—despair of obtaining his object, and therefore to abandon it; but it is hoped that the time is not far distant, when, a right method of investigation being adopted, and vigorously pursued, with necessary qualifications for conducting it properly, this interesting and important problem shall be solved." 10.

1832.

The sickness and mortality this year were intermediate between 1830 and 1831. Less than in the former year—greater than in the latter. There is nothing very particular in the statistical report of this period.

1833.

The mean force this year was 1357—and 1817 cases of illness were recorded—a ratio of 1338 per thousand men. The ratio of mortality was 25 deaths in every thousand men—or 34 in the whole—almost exactly the same rate as in 1832.

1834.

Mean strength was 1782, and 1493 cases of sickness. Of these, 33 died, or 27½ per thousand.

1835.

Mean strength employed, 1497 men—and 2126 cases of illness. Of these, 24 died—a proportion of 16 in the thousand men, and 38 were invalided. This, therefore, has been the most favourable year of any yet considered—not only in the rate of mortality, but also in that of invaliding—being less than half of the mortality in 1830. It is impossible, however desirable, to account for these fluctuations in *effects*, while the causes remain apparently the same.

"The mode of life, of diet, drink, clothing, sleeping and watching, were the same; the nature and the places of service were the same. It would be highly interesting to ascertain why the indigenous cause of fever,—for on that the difference depends, was in such different degrees of force, though always existing, in these years. It has evidently periods of increasing, maximum, and decreasing, force; this it has in common, perhaps, with the cause of other febrile endemics, at least those of hot regions." 27.

1836.

The mean strength was 1355—number of sick cases, 1347. Of these, 40 were invalided, or about 3 per cent.—and 20 died, or about 1½ per cent. of the whole force. There is but little difference between this year and the last—what difference there is, is in favour of 1836.

AGGREGATE OF THE SEVEN YEARS.

The whole force employed was 10,591 men, and the total number of deaths, both on the station and at the hospitals at home, were 263, or 2½ per cent. per annum. The wonder is, that the mortality on a station

including the west coast of Africa, should be so moderate. Thus in the boasted climate of Naples, the mortality annually is at least 35 per thousand inhabitants, or $3\frac{1}{2}$ per cent.—one per cent. more than among our seamen on the coast of Africa!! This appears astounding, at first sight; but, when we reflect that in Naples, the whole population is included—old and young, sick and sound—whereas, our seamen are generally in the prime of life—the wonder is much abated, though it does not entirely vanish.

But the loss on the station in question, though apparently much smaller than might have been expected, was yet three times as much as on the South American—as 25 to 9, compared with the Mediterranean—and as 12 to 8, compared with the West Indies.

The period of seven years on the Cape station, as above analyzed, presented a very favourable specimen. If the seven preceding, and the seven succeeding years were included in the survey, the picture would be many degrees darker than it is. The fact is, that twenty years are scarcely sufficient to strike an average of sickness and mortality on this, and perhaps on any other station between the tropics—or even beyond them.

The number of tables constructed for the septenniad above-mentioned is very great; but these we cannot notice in this brief abstract. They are highly creditable to the labour of Dr. Wilson and the able Physician-General of the Navy. The late period of the quarter, at which we received the volume, prevents us from noticing the other commands and stations comprised in the Report till next number.

I. HYDROPATHY; OR THE COLD WATER CURE, AS PRACTISED BY VINCENT PRIESSNITZ, AT GRAEFFENBERG, IN SILESIA. By *R. T. Claridge*, Esq. Octavo, pp. 320. Madden & Co. London, 1842.

II. ETABLISSEMENT HYDRO-THERAPEUTIQUE DE MARIENBERG, PRES BOPPART SUR LE RHIN. Dr. *Schmitz*, 1842.

MR. CLARIDGE is mistaken in supposing that he was the first person to make known the "WATER CURE" of Priessnitz in this country. Dr. Johnson, more than a year ago, gave the pith of the matter, in the first edition of his "PILGRIMAGES TO THE SPAS," besides some short notices in this Journal. We should not be surprised to find hydropathy thrust aside homœopathy — "animal magnetism" — "brandy and salt" — or even "Morrison's pills." We understand that one, if not two establishments, are being formed in this country, for the cure of all diseases by perspiration and cold water—and that an eminent physician—distinguished for undoubted talent, unlimited belief, and boundless enthusiasm—a physician, who is always ready to adopt a new, and discard an old remedy—and who, like Paganini, has seldom more than one string to his fiddle—has become a disciple of Priessnitz, and will probably be the Apollo of Hydropathy in this country.

Dr. Schmitz, too, a respectable German physician, has set up a splendid hydropathic establishment, near Boppart on the Rhine, in the ancient monastery of *Marienberg*, with every advantage of air, water, and beautiful scenery. We should not be surprised if Marienberg attracts a considerable number of the Rhine-goers this summer, were it only from curiosity to see this wonderful process for bleaching both the outside and inside of hypochondriacs and malades imaginaires.

Mr. Claridge must have an organ of credulity, beyond all measurement, if he really believes that the Silesian peasant, (who, acccording to Mr. C.'s own confession, does not know in which side of the abdomen the liver lies,) is "one of the greatest benefactors of mankind—one of the most astounding geniuses of this or any other age—the founder of a new system, by which he proves, *beyond the power of contradiction*, that all *curable* diseases, and many declared by the faculty beyond the power of their art, are to be cured by the sole agency of cold spring water, air, and exercise." Why, Morrison *proves* that he can do even more than all this by a single box of pills—while "brandy and salt," upon the very same kind of testimony, puts to flight every ill that flesh is heir to. Mr. C. tells us that the aid of this "SECOND HIPPOCRATES" "has been sought by upwards of 7000 invalids." This is very probable. Far more than that number have *sought* the aid of Morrison's pills—and a pretty considerable number of these have found a final cure for all their maladies—in their graves.

Mr. C. does not inform us very distinctly what was the precise nature of the complaint which induced him to take a pilgrimage to Gräeffenberg. We should suppose it was not a very serious one; nor do we imagine that many of the "two or three hundred" who daily sat down to dinner at the hydropathic table-d'hôte, were affected with very *grave* maladies. Our author "could not help remarking the happy, healthy-looking countenances of *all* around, and the merry laugh and mirth which burst from every part of the large saloon." Whoever has taken his stand, for a couple of hours, at the Kochbrunnen, Sprudel, or other efficient source of mineral waters, and observed the squalid invalids that encircle them, will be not a little surprised to learn from the author before us, that the jolly jovial crew assembled at Gräeffenburg, "come here after having consulted *all* the celebrated doctors within their reach, and tried the mineral waters of Germany in vain." Is it not astonishing that a writer, of even the most moderate share of discernment, should not be struck at once with the utter inconsistency—not to say the utter incompatibility, of the two statements adduced above!

The following is the formula through which Mr. Claridge himself passed, which may answer as a specimen of hydropathy.

"At four o'clock in the morning, my servant folded me in a large blanket, over which he placed as many things as I could conveniently bear; so that no external air could penetrate. After perspiration commenced, it was allowed to continue for an hour: he then brought a pair of straw shoes, wound the blanket close about my body, and in this state of perspiration I descended to a large cold-bath, in which I remained three minutes; then dressed and walked until breakfast, which was composed of milk, bread, butter, and strawberries, (the wild strawberry in this country grows in abundance, from the latter end of May until late in October;) at ten o'clock I proceeded to the douche, under which I remained four minutes; returned home, and took a sitz and foot-bath, each for fifteen minutes;

dined at one o'clock; at four proceeded again to the douche; at seven repeated the sitz and foot-baths; retired to bed at half-past nine, previously having my feet and legs bound up in cold wet bandages. I continued this treatment for three months, and, during that time, walked about 1000 miles. Whilst thus subjected to the treatment, I enjoyed more robust health than I had ever done before: the only visible effect that I experienced, was an eruption on both my legs, but which, on account of the bandages, produced no pain. It is to these bandages, the perspirations, and the baths that I am indebted for the total departure of my rheumatism." 15.

Mr. Claridge is very much in error, when he thinks that this practice is original with Priessnitz. It will presently be seen that, as far as the bathing process is concerned, and it is the principal, the Russians have employed it time immemorial. The ingurgitation of large quantities of cold water is also an old practice, as everybody knows. The following condensed formula was published by Dr. J. Johnson more than a year ago.

"About four or five o'clock in the morning, the patient is wrapped up to the chin (while in bed) in a thick woollen shirt. Outside of this is placed another covering of down, fur, or any warm and impermeable material. In a short time the disengagement of animal heat from the body thus enveloped, forms a fervid atmosphere around him, which soon induces a copious perspiration, in the greater number of individuals. It has been observed that in diseased parts, as for instance, in the joints of gouty people, the perspiration was longest in breaking out. When the skin is obstinate, friction and other means are used to accelerate the cutaneous discharge. When the physician judges that the perspiration has been sufficient, the patient is quickly disrobed and plunged into a cold bath, which is kept ready at the side of his bed. The first shock is very unpleasant; but that over, the invalid feels very comfortable, and when the process is likely to prove favourable, there is frequently observed on the surface of the water a kind of viscid scum, the supposed morbid matter thrown off from the body. The period of immersion in the cold bath is carefully watched, for if protracted too long it proves hurtful, or even dangerous. Some people will not bear the cold immersion above a minute—others are allowed to remain till the approach of a second shiver. Where the patient is very delicate or weak, the temperature of the bath is raised a little. In other cases, the bath is artificially depressed below the natural temperature of the water.

On emerging from the bath, the patient is quickly dressed, and immediately commences exercise, and drinks abundantly of cold water. The limit to this ingurgitation is sense of pain or weight in the stomach. The patient, although rather averse to the cold drink at first, soon becomes fond of it, and will swallow fifteen or twenty goblets with a keen relish. After the promenade and cold drink is over, a nourishing breakfast is taken. All stimulating or exciting beverages are entirely prohibited. The appetite generally becomes keen, and the digestion, even of dyspeptics, strong and effective during this course. Between breakfast and dinner is variously employed, according to the strength of the patients or the nature of the disease. Some take riding or pedestrian exercise—others gymnastics—and a few have more cold water, as a plunging or shower bath.

The dinner is to be light and soon after mid-day. It is generally taken with a keen appetite. During the three or four hours after dinner, all exercise of mind or body is forbidden, but sleep is not to be indulged in. Towards evening, some of the stronger patients repeat the same process which they underwent in the morning; but those who are weak, or in whom the crisis is approaching, only take cold water to drink in moderation. After a slight supper the patient retires to sleep, in order that he may early resume the routine of the water-cure.

The professors of this system vary the mode of application almost infinitely—

especially the external application of the cold water, according to the general or local seat of the complaint. They act very much on the doctrine of revulsion or derivation. Thus when there are symptoms of fulness or congestion about the head or the chest, a half-bath or hip-bath of cold water is employed, disregarding the first impression of cold on the lower parts of the body, but looking to the *reaction* which is to take place there, and to the consequent derivation of blood from the head and chest. Foot-baths, cold lotions, fomentations, and poultices are variously used, according to the nature or seat of the malady.

Like the spa waters, this HYDROTHERAPEIA produces, in a great many instances, a CRISIS. For some days the patients feel themselves much more energetic and comfortable than before the course was begun; but after a time 'a veritable state of fever is produced, the result of this general effervescence.'* Then the symptoms of the complaint, whatever it may be, are all exasperated and acquire an increase of intensity—even old diseases, that were forgotten, will sometimes re-appear—but all this commotion is the precursor of a salutary crisis and a return to health. A kind of prickly heat, with itching of the skin, is a common occurrence in the course of the cure. 'The effects produced even on organic diseases by this hydro-therapeutic treatment would convince the most sceptical of its wonderful efficacy.'"—*Engel.*†

So much for Mr. Claridge being the *first person* to make known hydropathy in this country! The following passage from Dr. Johnson's book relates to the *originality* of Priessnitz' practice.

"Before proceeding farther, it will be proper to explain that the transition from a hot bath to a cold one, even in a state of perspiration, is not half so dangerous as most people imagine. It is well known that if we jump out of hot water into cold, we resist the shock, and bear the effects of the latter better than if we took the plunge without any preparation. But then there is a strong prejudice that *perspiration* is an insuperable bar to the application of cold water to the surface. If the individual has come into a state of perspiration from bodily exercise, and especially if he be fatigued or exhausted—then the cold water would be dangerous. But this is not the case, to any extent, when he is warmed either by the hot bath, or by the accumulation of heat generated in his own body. This is proved by authentic facts which have come under my own observation. Forty years ago, when the Russian troops were encamped in the islands of Guernsey and Jersey, the soldiers constructed rude stone huts or ovens along the beach, for vapour baths. Into these they put stones, and heated them by fire, when they poured water over them, and thus filled the hut with a dense vapour. When the men had continued in this rude vapour-bath till they were in a state of perspiration, they leaped into the sea, and swam about till they were tired. All this was done, partly for health, partly for pleasure. It is well known to all northern travellers that the Russians are in the habit of steaming themselves in the vapour-baths, and then directly rolling themselves in the snow. Every one, too, must have observed postillions dashing their foaming and perspiring horses into any convenient water at the end of their journey, without the least fear of their animals being injured by the dip.

Here then is a complete counter-part, or rather prototype of the HYDRO-SUDO-PATHY as already described. But there is one process which will appear incredible to most people—that of procuring perspiration by means of blankets wetted with cold water. Let us see whether an illustration of this may not be found. Every one who has read the Waverly Novels must have been struck with the singular practice pursued by some Highlanders (outlaws I think) who were obliged to pass many winter nights unsheltered on the freezing mountains.

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* Dr. Engel, of Vienna.

† Pilgrimage to the Spas, p. 134.

When they were desirous of sleeping, they dipped their plaids in the freezing water of the nearest pool or stream, and, wrapping themselves in this dripping and gelid mantle, went quietly to sleep! So long as the plaid kept wet, the Highlander kept warm, and slept soundly; but the moment it got dry, the man was awoke by the cold, and proceeded to the brook or stream to saturate his bedclothes again with cold water. Here we have the prototype of the German process described in the case of the girl with inflamed lungs. By what process of *reasoning* the Silesian peasant and the Celtic mountaineer, arrived at the knowledge of these curious facts, would be difficult to imagine. There was probably no reasoning in either case, but chance, observation, and experience.

It is sometimes more easy to explain a phenomenon when discovered, than to arrive at it by any process of reasoning previously. The wet plaid by confining the animal heat of the Highlander, soon occasioned a warm atmosphere around his body, which kept him comfortable. But as soon as the plaid got dry and its texture *pervious*, then the animal heat rapidly escaped, and the feeling of cold dispelled sleep." *Ib.* p. 136.

Gräeffenberg is a colony of about twenty houses, placed about half way up one of the mountains of the Sudates in Silesia, 70 miles from Breslau—260 from Berlin—200 from Dresden—and 175 from Vienna. In the valley below is the small town of Freiwaldau, where families are accommodated, and forms the fashionable wing of the hydropathic establishment. The valetudinarium itself, of Gräeffenberg, is elevated 600 feet above the town of Freiwaldau, and commands magnificent prospects; but it is badly arranged, "there being always a disagreeable smell in it—first, from the cows, which are *kept under the house*; secondly, from the public conveniences, which are on the stair-case—and thirdly, from the kitchen, which is under the saloon, up into which, the dinner is raised through a trap-door, by means of pullies"!! These three sources of malodorous, if not malarious effluvia (cows, commodes (?) and cookery) must, when united, produce a TERTIUM QUID, which the olfactories, even of a German, would not readily relish! The cows, the commodes, and the cooks indeed, ought to be subjected daily to the "water cure," of which, we suspect, they stand in quite as much need as the valetudinarians themselves. The accommodations in the chambers of Gräeffenberg are not of the most refined kind. "A bed-stead, with straw mattress—a chest of deal drawers—a table—two chairs—a wash-hand-basin—a decanter and two glasses, comprise the whole furniture." M. Priessnitz very wisely and philosophically concludes that—"a want of comfort in the apartments is an advantage, as it induces people to be a great deal *out of doors*." "Reading, writing, and thinking are obstacles to recovery." The expense of living at the valetudinarium is about twenty shillings a week, including the honoraria (2 florins, or 4s. to the second Hippocrates, Dr. Priessnitz) who, however, is generally presented with a florin or two extra, by the generous or the wealthy.

We shall not dilate on the biography of Priessnitz. He was the son of a farmer, and took the hint of curing his fellow-creatures by cold water, from a *Physicianer*, or, in other words, a *Cow-Doctor* in the neighbourhood. Having been run over by a cart, which fractured two of his ribs, a surgeon (?) from Freiwaldau pronounced that Hippocrates the second would never be "fit for work again." The GENIUS did not relish the prognostication, and endeavoured to cure himself.

"To effect this, his first care was to replace his ribs, and this he did by leaning with his abdomen with all his might against a table or a chair, and holding his breath so as to swell out the chest. This painful operation was attended with the success he expected; the ribs being thus replaced, he applied wet cloths to the parts affected, drank plentifully of water, ate sparingly, and remained in perfect repose. In ten days he was able to go out." 58.

The fame of this "extraordinary cure" spread far and wide—"so that his house was beset with persons, rich and poor, begging his advice." We think we need not go much farther, after this specimen of the manner in which medical fame is sometimes acquired. St. John Long was an example in our own time.

Of Mr. Claridge's own liberality and good sense, the following is a specimen.

"There is no doubt that Mr. Priessnitz owes all his experience to his utter ignorance of medical science, which, indeed, is his greatest advantage; for what does the history of medicine offer, but the discouraging picture of the instability of principles, and a series of theories succeeding each other, without any one of them being able to content an upright spirit, or satisfy an inquiring mind?" 62.

Truly "if ignorance be bliss, 'tis folly to be wise." The author before us tells us that, although Priessnitz may have some theory in his own mind, he has never disclosed it, either by oral communication, or by writing. Yet a few pages farther Mr. C. gives us a most elaborate theory of his second Hippocrates, containing no less than thirteen doctrines, or at least dogmas—of which we can only spare room for one, the XIth.

"To think of curing disease with the poison commonly called physic, must, to the reflective mind, appear paradoxical, because it is impossible to bring the physic to bear upon the dispersed and deeply hidden diseased matter; and even if this could be done, it is quite impossible, as every chemist knows, that the morbid matter and physic should mutually dissolve each other into nothing. The consequence of such treatment with physic is, that to the old evil, a new stimulus is added, weak or strong, according to the dose and quality." 90.

Another dogma or doctrine of this second Hippocrates is, that acute diseases are, at the best, but changed into chronic, by medicines, and are then either incurable, or to be remedied only by hydropathy! Now, absurd and erroneous as these dogmas are, they will tend to confirm a considerable portion of the public in a prejudice which is daily gaining ground —namely, that the present system of polypharmacy is injurious more frequently than beneficial. It behoves the general practitioner, as we have often remarked, to change, as soon as possible, the mode of charging for medicines instead of attendance. If they do not adopt this plan, immediately that it is legalized by the pending bill, they will commit professional suicide.

The list of diseases for which the process already described is applied, contains, as usual, almost all the maladies in Cullen's or Good's Nosology. We need only specify a few; viz: gout, rheumatism, all kinds of fevers, dropsy, cancer, cholera, (!!) dysentery, pneumonia, (!!) scarlatina, measles, small-pox, (!!) inflammation of brain, syphilis, quinzy, dyspepsia, of all shapes, tic-douloureux, epilepsy, uterine hæmorrhage, &c. &c. Now, we need hardly say that, with the exception of dyspepsia, chronic rheumatism,

and a few other chronic ailments, the hydropathic system will, in almost all instances, prove injurious or even dangerous. In all cases of acute inflammation—perhaps in all cases of sub-acute inflammation, the plunge from perspiration to the cold bath will be little short of insanity.

It is said that smooth water runs deep. We strongly suspect a deep current of self-interest under the spacious flow of philanthropy and humanity pervading this volume—especially through that portion of it which claims to be original. We have seen the virulent hostility which the author evinces towards the medical profession, and to physic of every kind. We have seen that a Silesian peasant, so ignorant of anatomy as not to know in which side of the body the liver is placed, has been elevated into an "astounding genius"—a "second Hippocrates," by Mr. Claridge. At the same time, it is unequivocally hinted that—"he does not see how individuals who are in *no other* way acquainted with the treatment (of hydropathy) than what they learn from books, are to carry it into execution, *without the assistance of some one who understands Mr. Priessnitz's mode of treatment.*" So so! Now, if a hydropathic establishment be set up at Richmond or Norwood, where there is good air and plenty of water—and if medical knowledge be not only unnecessary, but actually prejudicial, who can more appropriately enact the part of Hippocrates the second, than Hippocrates the third—Mr. Claridge himself? Nous verrons!

Before parting, however, we may just address a few hints to any UNDERTAKER who may establish a hydropathic valetudinarium in this country. With the exception of Priessnitz, among his wild mountains of the Sudates, none of the various speculators, in Germany, can be said to have succeeded. And why? Not because they have lacked the "astounding genius," and the profound ignorance of the Silesian peasant, but because hydropathy could not succeed wherever there were competent judges of its merits. It was, and always will be found that in the "water-cure," that which is true is not new, and that which is new, is not only untrue but dangerous. He who practises on inflammatory complaints on hydropathic principles will find himself, some fine morning, in Newgate, as surely as St. John Long murdered Miss Cashin. Neither will he find John Bull so tractable an animal as his cousin-*German*. John will be found to have little relish for the wet sheets and greasy blankets so much in vogue at Gräeffenberg, having quite enough of dripping garments in his own humid climate. We strongly suspect too, that Johnny will be very loth to exchange his pint of "stout" for a gallon of Thames water. Mr. Claridge, if he expects to introduce hydropathy into this country, will be found to illustrate the old adage—

"Quem Deus vult perdere prius dementat."

By outraging the feelings of a whole profession, the science and practice of which he is entirely ignorant of, he has laid the foundation for a vigilance over his proceedings, which will effectually check all his prospects—if indeed he be insane enough to attempt the personification of Priessnitz in a country like this.

MEMOIRES DE L'ACADEMIE ROYALE DE MÉDECINE. Tom. IX. pp. 796. Paris: Baillière, 1841.

THIS annual collection of the Memoirs which have been read before, and pronounced worthy of publication by, the Paris Academy of Medicine, much resembles the Medico-Chirurgical Transactions of our own country. The present volume is an interesting one, and we proceed to give an account of the various papers it contains, omitting, however, as foreign to our purpose, any notice of the *elogés* upon Tessier, Sanson, and Ambroise Paré.

I. REPORT OF THE COMMITTEE UPON THE EPIDEMICS WHICH HAVE PREVAILED IN FRANCE DURING 1839–40. By *M. Bricheteau.*

Documents connected with this subject have been forwarded to the central authorities from the Prefects of most of the Departments.

1. *Typhoid Fevers.*—Of the communications relating to epidemics, amounting to above 80, thirty relate to severe epidemic *fevers*—the term typhoid being, as M. Bricheteau observes, most vague, embracing the forms of disease of various origin, and various nature. Typhoid fever is endemic in Britain, France, Germany, and Sweden, as is the plague in the East, the cholera in India, and the yellow fever in America—and, like all these diseases, may, at certain seasons become epidemic. Like these, also, it usually attacks but once the same individual, and its specific treatment has yet to be discovered. In the districts embraced by the reports there were 1,433 cases and 255 deaths. In six epidemics the *cause* was stated to be contagion, but the facts were too loosely stated: in two, over-crowded cemeteries, surrounded by habitations; in six, the vicinity of marshes and cloacæ, and general neglect of hygiene: in others, atmospheric vicissitudes, famine and poverty. The *symptoms* were frequently of a very grave character, those of the worst form of typhus, and were often attributed to the injudicious use of stimuli and purgatives, and to the intermeddling of the ignorant and quacks, before proper assistance could arrive. Even regular practitioners, says the report, do not seem to have had any defined notions upon the subject of treatment, merely attacking symptoms, and not pursuing any exclusive practice, whether tonic or antiphlogistic.

2. *Remittents and Pernicious Intermittents.*—When they are mild in their attacks, intermittents, so far from being dreaded in the localities wherein they appear, are frequently desired, being supposed to be preventives of more serious evils; but, when they prove malignant, they spread general alarm. Three such epidemics are here noted, and their examination proves that many localities are as yet absolute strangers to all hygienic precautions: large marshes, stagnant pools, cloacæ, &c. existed in the immediate vicinity. The affection usually manifested itself at first in a very obscure manner, and the mortality was very considerable, until *quinine* was given. Large quantities were required, sometimes 200 or 300 grains,

before relief was obtained. Indeed, in such cases, quantity must never be regarded, for no ill effects upon the intestinal canal or spleen ever occurred from the use of this drug. In one of these epidemics, complicating pneumonia, the use of the lancet was found to be followed by alarming debility, and a cure rather to be obtained from anodynes, quinine, and counter-irritation.

3. *Dysentery.*—This prevailed epidemically and endemically, in Brittany at La Vendée, caused by atmospheric vicissitudes and unwholesome diet. In these provinces it often puts on the form of cholera. At the commencement, the mortality was terrible—of six seized only one escaping. *Opium* proved the sheet-anchor. The rapidity of the course of the disease was remarkable. If the patient were not relieved, he sank in four or five days, but, in more favourable cases, eight days were occupied by the malady.

4. *Miliary Sweat.*—This epidemic disease, prevailing especially in Picardy, has been long known as the "Picardy Sweat." It first appeared in 1718. In 1733 it gave rise to Bellot's celebrated description. Attacks have since occurred from time to time; but the severest of all was the epidemic of 1821, so well described by Rayer. In the present report two epidemics are noted: in one, twenty persons died out of 77 attacked, and in the other, 16 out of 115: the one arose without appreciable cause; the other was thought to be due to the vicinity of a hemp-dresser, and an animal charcoal maker; in the one, early bleeding was very useful, but not so in the other.

Among the various reports on epidemics of scarlatina, small-pox, measles, &c. the committee only allude to one, containing a case of *rubeola nigra*, observed at Rheims.

It seems that there are medical men of note appointed in each district to repair, upon the appearance of epidemics, to the spot, superintend the treatment, and report upon the result. It is an excellent arrangement, seeing how badly some of the provincial districts of France are supplied with medical attendants; but, as the committee observes, these medical authorities, sometimes arriving only when the epidemic was upon its decline, have unwittingly deceived themselves as to the superior efficacy of the treatment they adopted—a remark we imagine that may justly be applied to similar hasty conclusions, which are sometimes drawn in our own country.

The committee dwells strongly upon the importance of improving the condition of the habitations of the lower classes. For want of attention to this, Normandy and Picardy, two of the finest provinces in France, are afflicted with epidemics. "Who would believe, that in the midst of a refreshing air, and of a vegetation which purifies the atmosphere, our peasants are living, during the long nights of winter, nearly asphyxiated in their narrow cabins, where all ages are confounded together, and where they are sometimes disputing with their domestic animals a few cubic feet of respirable air? In such habitations, humidity, mephitic vapours, the exhalations from dung-heaps, and putrifying substances, and stagnant waters, favour the development of dreadful diseases, and ravaging epidemics."

The populous city and large town, with their cellars and garrets, can tell, we fear in our own country, even a yet more fearful tale of physical suffering and moral deprivation. Public attention is however becoming aroused to the necessity of remedying this state of things, evidences of which we take to be the laying out of new parks, the widening of streets, the improvement of the drainage, and the contemplated discontinuance of interment in towns.

II. A MEMOIR ON SEVERAL RECENT TRIALS FOR POISONING BY ARSENIC. By M. *Orfila.*

Our readers are aware of the nature and importance of M. Orfila's recent improvements in the mode of detecting arsenic.* The early disappearance of the poison from the alimentary canal heretofore rendered its detection, when existing in small quantities, impossible after a brief period. M. Orfila has found that it is to be discovered at a later period in the urine, with which it has been in part eliminated from the system, and still later in the substance of various organs, by destroying the animal matters of portions of these, and then submitting the residue to the action of Marsh's apparatus. As the portion so obtained is frequently very minute, considerable delicacy and adroitness are required in conducting the investigation; and it becomes of great importance, that the various proofs offered by this distinguished chemist, that the spots resulting from the action of Marsh's apparatus are really arsenical, be submitted to the most rigid investigation. Many cases, hitherto supposed to be beyond the pale of justice, will, if M. Orfila's researches be confirmed, be brought under its cognizance; and no name, however great, can render diversified and repeated experiment unnecessary, when so many lives may eventually depend upon the establishment of this new test. It must ever be remembered that tests heretofore vaunted as certain, and upon the faith of which condemnations or acquittals have taken place, by improvements in science have been proved fallacious. However, into this investigation we have now no purpose of entering, but wish simply to notice some examples of the practical employment of the new test in France. M. Orfila reports five cases which have been recently decided by the tribunals.

In the *first*, a man was supposed, from the symptoms during life, and the appearances after death, to have been poisoned by his wife. Nine months after his death, decoctions of various parts of his body were sent to M. Orfila, and he finding no trace of arsenic, the woman was acquitted.

The *second* case was that of a youth, supposed to have been poisoned by his father. His body was not examined until fourteen days after death, when the mucous membrane of the stomach and duodenum were found ulcerated in places. No traces of poison were discovered in the analysis

* Medico-Chir. Review. Nos. 63, 64, 66 and 67.

of the contents of the stomach. Three months after, the body was disinterred, placed in a new barrel, and sent to Orfila. It was in pieces, some of the organs being decomposed, and exhaled a horrible odour. An extract of various portions of the body, having been produced by long decoction, the animal matter destroyed, and the residue placed in Marsh's apparatus, the arsenical spots appeared. The body of a dog, which had been poisoned by arsenic, yielded the same appearances, while, these were absent in two bodies in whom no suspicion of poison existed, and which were submitted to the same processes. The earth of the cemetery was examined in several samples, but only in one instance did slight traces of arsenic present themselves. The accused was accordingly condemned. The trial was remarkable, as M. Raspail presented himself in order to combat Orfila's opinions. We have already said, that the new views of this latter chemist must be well examined into, and, if found erroneous, they must of course be opposed; but such opposition to them must be conducted in the same spirit of fairness, and with the same desire for the advancement of chemical science, and medical jurisprudence, as have prevailed in their promulgation. Men of science will not consent to be represented by so fantastic and so prejudiced a person as M. Raspail has proved himself on many occasions to be. Admitted as an evidence for the accused he entered upon a vague declamatory tirade, during which, personal enmity, and an ignorance of the matter in dispute, became too apparent. Thus, the phenomena of putrefaction, the enthusiasm for new experiments, and the abandonment of old tests, were all cited. The failure of the other chemists to detect arsenic in the contents of the stomach, he held a sufficient proof that none existed. But, supposing that arsenic really had been detected in the liver, muscles, &c. of this person, might not the barrel have been infected, or may not the poison have been introduced surreptitiously during the exhumation? Is there not arsenic in vegetables, and will not paper coloured with arseniate of copper infect manure in contact with it? Why was only a killogramme of the earth of the cemetery examined? its examination should have been conducted on a grand scale. If, as is possible, arsenic should have been found in this earth, who can tell, but that by some unknown internal movements, or electrical agency, (!) it may not have reached the substance of the viscera of the corpse! The discoveries of no man, however eminent, must be taken as law, unless *academies* have decided in favour of them! Have not the most skilful chemists admitted that the decoction of onion will produce the same re-actions as arsenic? This apparatus of Marsh is liable to betray its employers into many errors.

The judge, pointing to some of the spots which had been produced by submitting the liver to the process, demanded of M. Raspail whether these were arsenical. "They look like it," replied he, "but there are a thousand substances which, if combined in this or that manner, would produce the same appearance." "Will you give us an example of some of these substances, sir?" "That would occupy too much time; such problems as these are not to be resolved in a few hours; besides, I am not here to make experiments. But look at this apparatus of Marsh, every means is abandoned for it, because it is superior to all; and yet, when by it the

arsenic is obtained, to recognise its existence, you are obliged to have recourse to the very tests you condemn."

"If this vague theory respecting the arsenic of soils be true," replied M. Orfila, "there is an end of examining any bodies which have been once interred. Let bodies be disinterred from the cemeteries of the Bicetre, or Mont Parnasse, the soil of which is avowedly slightly arsenical, and I will defy you to discover in the organs of these bodies any traces of arsenic. The idea of a subterraneous electricity producing such extraordinary effects is purely imaginary. If I renounce all other means in favour of Marsh's apparatus, it is because this is the only one which will show these small quantities of metallic arsenic; but, I do not deny the efficiency of other tests, when we have a sufficiency of the metal to operate upon. When by the aid of this apparatus we have obtained minute metallic atoms, which would have escaped us by any other proceeding, we are still obliged to prove that the metal so produced is really arsenic, by submitting it to the action of fire, nitric acid, nitrate of silver, &c. I exposed the errors respecting the decoction of onion twenty years ago. M. Raspail says these spots are not produced by arsenic. My reply is short. Let him cite any substance, uniting the characters I have detailed, and prove the exactitude of his assertion,—then, instantly, I will tear my report into pieces, and beg the jury to regard all I have said and written upon this subject as if it had never occurred."

In the *third* case, a woman perished with the symptoms of poisoning, and several lesions were found in the alimentary canal. Some chemists had tested the contents of the stomach, &c., and a portion of the organs were submitted to the processes recommended by Orfila. A decoction of the stomach gave very slight traces of arsenic; but these Orfila considered sufficient, as the woman having lived five days, there had been ample time for the greater portion of the poison to be discharged by vomiting, and eliminated by the urine. He repeated the experiment, and produced the spots which he considered conclusive. M. Raspail did not appear personally, but transmitted a pamphlet with new objections, and among other assertions respecting the detection of arsenic, he states that negative results are irrefragable proofs of non-poisoning in the case of the metallic poisons—thus, putting the relative skill of the operator, and excellence of his process, entirely out of the question.

The husband was condemned, and it was afterwards discovered that he had obtained arsenic. *The grocer who sold it him was fined* 3000 *francs* (£125.) *for so doing.*

During this trial, the judge asked M. Orfila, whether the fact of the vomiting continuing for five days, could be explained upon the supposition that but one dose of the poison had been given. He replied in the affirmative, and added, that after a portion of arsenic has been absorbed, either an individual rejects all the remainder, or, what is more commonly the case, a portion of the fine powder adheres for several days to the walls of the stomach, in spite of the vomiting; thus maintaining the irritation in that organ, and continuing to be absorbed.

In the *fourth* case, M. Orfila detected arsenic after preceding chemists had failed; and he makes the following observations on an occasional cause of failure.

"I will here make an observation, to which I attach great importance. I strongly protest against the practice so frequently followed, and so long advised by writers upon medical jurisprudence, viz., the *multiplying unimportant experiments*, for the discovery of poison in a suspected body. The fluids are treated by a variety of tests, when it would be possible to detect the poison by confining ourselves to one or two operations. By this proceeding, a large quantity of the fluids are consumed, while the precipitates thus obtained have little or no value, and a sufficiency often does not remain to make the experiments, whose result alone can be conclusive. The impurity of many of these tests may also lead to fatal error.

Being consulted nearly daily by some of my brethren in the provinces, to whom the tribunals have confided these researches, I have become convinced, that much of the want of success arises from the causes I have mentioned."

The *fifth* case is that of the celebrated *Laffarge*, which has occupied public attention so much of late. This man was seized, on the 4th of January, with vomiting, colics, and painful constriction of the throat. These continued with more or less intensity for several days. He died on the 14th, and, upon examination, redness and ecchymosis of the stomach, and an ulcer of the duodenum, were discovered. In a first series of experiments, the tube broke while the reduction of the precipitate was proceeding. In a second series, a portion of the stomach was submitted to Marsh's apparatus, as also the matters vomited, and from neither was arsenic produced. In a third series, the body was exhumed, several chemists examined it by the processes recommended by Orfila, and with the same result. A fourth series were conducted personally by Orfila, and he obtained arsenic from the stomach and its contents, as also from portions of the thoracic and abdominal viscera.

After the conviction of Madame Laffarge, a paper war was waged between MM. Raspail and Orfila. The former accuses Orfila of determining at all hazards to discover arsenic, and of having taken it with him in the nitrate of potass he employed in his experiments. In answer to other more reasonable objections of M. R. and of Madame Laffarge's counsel, Orfila observes—

1. That arsenic was not obtained from the muscular substance, because so small a quantity was experimented upon. 2. That the spots produced were truly arsenical, and in a greater number than was required to produce conviction. 3. That the preparation of iron which Laffarge had taken prior to death, could not be supposed to have contained arsenic, and if it did, no portion of it was found in any of the organs operated upon. 4. That the arsenic could not have entered his system while Laffarge was engaged in his foundry, as he had not been near it for fifty days prior to death; and if a small quantity in the form of vapour might have then obtained admission, a few days would have sufficed to have liberated it. 5. It is not true that arsenic is generated in any of the soft tissues during putrefaction.

It will be seen that this process of M. Orfila is one of considerable difficulty, as his directions were followed on two separate occasions by several chemists, and yet he alone was able subsequently to detect the presence of arsenic; and upon the strength of his evidence alone was Madame Laffarge condemned.

III. LIGATURE OF THE COMMON CAROTID ARTERY, FOR AN ERECTILE TUMOR OF THE ORBIT. By M. *Jobert.*

M. æt. 60, came to Paris to consult the leading medical men, respecting a pulsating tumor, which, from being scarcely visible, increased in a few months to the size of an egg, and mounted up from the orbit on to the frontal bone. Insupportable pain attended every movement of the eye, while vision on that side was destroyed. All remedies having proved ineffectual, it was determined to tie the right common carotid artery. Immediately after the application of the ligature, all pain and pulsation ceased. The wound healed by the first intention, but the ligature, detained by the cicatrix, did not come away for a month. The eye which had projected now returned within the orbit, and its various movements were performed without pain or limit. Little or no pulsation was perceptible in the arteries of the face on the right side, but on the left side they were anormally developed, while the healthy eye was unusually brilliant.

In this case, and in another which occurred to the author, no *cerebral* symptoms supervened upon the ligature of the common carotid: but, finding a great discrepancy of opinion in the works of various writers upon this point, he instituted several experiments upon animals. The result of these was, that the tying of the carotids was followed not by the production of cerebral mischief, but by the indications of a true pulmonary apoplexy; and, moreover, that this operation might be performed with impunity upon the dog, sheep, rabbit, and calf, but was fatal in the *horse*. In this animal, the vertebral arteries, large on entering their osseous canal, become almost filiform before penetrating the cavity of the cranium; and thus, after the ligature of the carotid, the blood not passing to the neck, head, and brain sufficiently freely, large apoplectic congestions of the lungs are formed. Bleeding, prior to and subsequent to the operation, was found to diminish the gravity of its effect, and M. Jobert suggests, that, in strong men, depletion should be resorted to, to prevent any pulmonic stasis.

IV. ANEURISM AT THE ORIGIN OF THE LEFT CAROTID TREATED BY LIGATURE ON THE DISTAL SIDE. By M. *Colson.*

F. Jaunet, æt. 63, applied for a pulsating tumor projecting below the left clavicle. A ligature was passed around the left carotid on the distal side of the aneurism with some difficulty, as the tumor thrust the axis of the vessel between the transverse processes of the vertebræ and the posterior border of the sterna-cleido mastoid. The same evening, some feverishness being present, 12 ozs. of blood were abstracted, and this was repeated the next day, making the fourth venesection, as she had been bled twice prior to the operation. She went on well for several days, with the exception of the wound, which yielded pus of a serous quality. On the 20th day, a slight transudation of blood proceeding from the wound, and some fever being present, she was bled for the fifth time, and the blood taken

was buffed. On the 28th day the ligature came away easily. On the 48th day another slight hæmorrhage and a sixth venesection. After this she went on well, and was about to be discharged cured, when a rapidly destructive ophthalmia attacked the left eye and vision was lost; 75 days after the operation the wound closed. About this time the woman fell down, and an increase of size and violent pulsations were perceived in the tumor; inflammation and threatening of abscess followed, but were soon relieved. Six months after the operation she was considered as cured, being relieved of all urgent symptoms, although a large swelling, and considerable pulsation remained.

This M. Colson states to be the 13th case on record in which the operation of Brasdor (the placing the ligature on the distal side of the aneurism) has been performed, and only the second instance of cure, the first being a case treated by Bushe.* But surely it is premature to pronounce this case, operated upon in January, as cured in July.

V. LIGATURE OF THE COMMON ILIAC, FOR AN ANEURISM OF THE EXTERNAL ILIAC. By M. *Deguise.*

Retouram, a muscular subject, applied on account of a pulsating tumor situated below the horizontal ramus of the pubis. The operation being decided upon, an incision was carried from below the anterior superior spinous process of the ilium to the outer border of the abdominal ring: care being taken to avoid the peritoneum, the sac of the aneurism was opened, an assistant at the same time, by compression of the aorta, preventing an undue flow of blood; a ligature was passed around the external iliac about an inch above the tumor, close to the common iliac trunk. Although the constriction of the ligature was made carefully, it divided the artery, and blood flowed abundantly, and another was therefore passed around the common iliac. The opening of the sac, and the division of the external iliac, rendered a ligature below indispensable; but, as the tumor occupied the whole of the external iliac, it became necessary to tie the femoral below the crural arch. In accomplishing this, the femoral vein was wounded, and it, as well as the artery, tied. The ligature of the iliac fell off on the 15th day, and that of the femoral on the 21st day. In spite of all the untoward circumstances connected with these operations, the patient proceeded on uninterruptedly to recovery.

VI. DISARTICULATION OF THE HUMERUS, REMOVAL OF THE SCAPULA, &c. By *Gaetani Bey.*

Bedui-Hassanem, while employed in a foundry at Cairo, was struck by portions of a cannon which burst. By the blow, a portion of the scrotum was torn away and the cord divided, but the principal violence was offered to the arm and shoulder, which parts were shattered and lacerated

* See Lancet, Vol. XIV. p. 149.

in the most horrible manner. The arm was removed, but the scapula was so much injured that it was resolved to remove it also with its adherent muscles. The clavicle was promptly separated from the acromion, and a small portion of skin which still covered the inferior angle of the scapula carefully dissected off. The acromial end of the clavicle was afterwards sawed off, and the few remaining portions of the integuments brought together as nearly as possible by sutures. Some vicissitudes attended the case in its progress, but in two months the lad was discharged cured.

VII. ON MENSTRUATION. By *A. Brierre de Boismont.*

This essay, designed to shew the influence menstruation exerts upon diseases, and how it, in its turn, is influenced by them, obtained the prize of the Academy of Medicine in 1840. The author divides the subject into two sections, a physiological and a pathological.

A. *Physiological Section.*

The author believing that exact knowledge respecting menstruation can only be acquired by statistical inquiries, has conducted these among 1200 women of different classes of society.

a. *First Appearance of the Menses.*—Of 276 women living in the country, the mean age was 14 years 10 months; of 205 living in towns, 14 years 9 months; and of 359 either born in Paris, or who had lived there at least a year prior to menstruating, the mean age was as follows; viz. in 171 poor women, 14 years 10 months, which agrees with MM. Marc, Despine and Bouchacourt's statements; in 135 of middling classes, 14 years 5 months; in 32 girls in M. Bouvier's orthopædic establishment, 14 years 8 months; and in 58 of the highest ranks, 13 years 7 months. Chomel, Andral, and Recamier likewise fix the age for commencing menstruation among the upper classes at between 12 and 14. The average age obtained by the union of 359 of all classes in the capital is 14 years 6 months. Marc d'Espine places the mean figure in Paris at 14.965. It is at Manchester 15.191, and at Marseilles and Toulon 14.015. Many circumstances besides mere climate contribute to the difference, such as condition in society, nature of occupation, customs, manners and habits, education, &c. Dr. de Boismont has found that a very carefully superintended religious and moral education has the effect of retarding the appearance of the menses among the upper classes. The influence of individual organization is difficult of appreciation: an approximation in reference to *temperament*, among the lower classes may be obtained, and these may be arranged in the following order, beginning with that in which menstruation appears earliest:—sanguine, lymphatico-sanguine, lymphatico-nervous, and lymphatic. A robust state of the constitution favours the appearance of the menses, a delicate one retards it. Those who have fair hair are more backward in commencing than those who have dark, as are women of tall stature compared to the shorter.

Of 645 women, 357 commenced menstruating without, and 288 with more or less serious premonitory suffering.

B. *Establishment of the Period.*—Among most women menstruation is usually established by the sole efforts of nature, and mischief frequently results from injudicious interference with remedies when it is a little delayed. Of 70 women the average period between the preliminary symptoms and full establishment of the flux was 1 year and 4 months. After the first menstruation, the periods or quantity may be at first very irregular: thus, of 122 women the mean period required for the definitive establishment of menstruation was 1 year and 6 months. Of 654 women 65 have never menstruated regularly, but of these only a third part have suffered inconvenience from this, and those who did suffer were usually of a scrofulous, lymphatic, or ricketty habit of body. The mere irregularity, unless accompanied by symptoms, is not a cause of inquietude, although women subjected to it should be more than ordinarily careful in all hygienic precautions. As to the period of return, 28 days are usually supposed to elapse, and in a great number examined 30 days were found to intervene. The exact day is sometimes observed, and the most ordinary deviation is for this to be anticipated by some days at the next epoch. The discharge usually first appears during the day, especially among women engaged in active occupations, but among the delicate the night is generally the time—while with many women the time of day is very variable and uncertain.

C. *Duration.*—Of 562 women, the period of duration was in the following singular order:—in 172, 8 days; in 119, 3 days; in 78, 4 days; in 62, 2 days; in 46, 5 days; in 35, 1 day; in 21, 6 days; in 12, 7 days; in 17, above 9 days. The menses lasted long especially among the inhabitants of towns, delicate nervous women, and such as led indolent, voluptuous lives. Several women are equally unwell the whole time, while others are more so at the commencement, the middle, or the end of the period.

D. *Influence of Great Towns.*—It is very common for young girls who leave the country to live at Paris, to find an immediate diminution or suppression of the menses, while in a small number they are increased. Often no unpleasant symptom attends this change, but at other times there is colic, griping, &c. The author is certain that a residence in the wards of a hospital has a tendency to produce a suppression. In young women, too, who came to the boarding schools and religious houses, often several months elapse before the re-establishment of the menses.

E. *Influence of Marriage,*—Of 25 women whose periods were irregular prior to marriage, in 14 they became regular. The author has seen several cases in which the menses appeared in the 2nd, 3rd, and 4th months of pregnancy, *and three in which they returned regularly during the whole period(?)* Although usually the menses are suppressed during *lactation*, yet, in 15 cases they appeared during some portion of this period, and in 12 continued throughout. In most of these the children did not seem to suffer; but in one woman who menstruated every three weeks, and whose milk was of a bad quality, the child perished; and in another case in which the mother had menstruated during eight pregnancies, the milk

was serous, and the children, who were very feeble, all died between the 4th and 5th year. Of 164 women who were examined as to the effect of *delivery*, in 82 who spoke positively, the usual period of the return of the menses was from six weeks to two months; and when the return is delayed for several months, (unless suckling,) uterine affection frequently exists, and should always be suspected.

F. *The Menstrual Fluid.*—M. Bouchardat undertook a new analysis of the menstrual fluid, obtained from one of our author's patients, who consented to allow a speculum to remain in her vagina for 10 hours, to obtain an ounce—a disagreeable and painful experiment, says M. De Boismont, and a somewhat revolting one, we may add. Without this precaution, the fluid becomes mixed with vaginal mucus and urine, as the presence of ammoniaco-magnesian phosphate proves. The following is the analysis:—

"Water	90.08
Fixed Matters	6.92

The fixed matters were thus composed:

Fibrine, Albumen, and colouring matter	75.27
Extractive matter	0.42
Fatty matter	2.21
Salts	5.31
Mucus	16.79
	100.00"

The great proportion of water he considers as due to the delicate frame of the patient, and to her subsisting chiefly upon a vegetable diet.

Another specimen of menstrual fluid examined by M. Donné, gave the following microscopic characters.

"1. Abundance of the ordinary globules of the blood.
2. Vaginal mucus formed of epidermic squamæ from the mucous membrane of the vagina.
3. Mucous globules furnished by the neck of the uterus."

From these examinations, it results that the menstrual flux does not differ from arterial blood. As to the acid or alkaline nature of the fluid, observed by authors, this depends upon the presence of mucus from the vagina and neck of the uterus. This mucus, as M. Nauche has proved, is acid in a healthy woman, and after delivery, but becomes alkaline when it is glairous or the product of inflammation: if only a limited portion of the passages be affected, the secretion will be acid and alkaline in different parts.

G. *Cessation of the Menses.*—In 181 women very different epochs were observed. Very rare in early life, cessation becomes frequent towards 40, and from thence to 50, very common, while after that age the number gradually diminishes. As to the entire duration of the menstrual life, it varies from five to 48 years, but the mean period is from 27 to 28 years,

Of 154 women, all symptoms or ill effects of the cessation at once disappeared in 40; and in 80 they had a mean duration of two years; in 12, the period was not precisely marked, and in 22 the symptoms still continued. *Metrorrhagia* followed the cessation in 57 cases. In moderation this is not to be feared, as it is often attended with but very slight debility. It is only dangerous when it indicates organic disease. It is much more frequent than supposed, and the author has repeatedly known it attributed to disease of the womb, and yet, after its continuation for several years, the woman has been restored to perfect health.

H. *Influence of Leucorrhœa.*—Observations respecting this were made upon 273 women. Of these 63 had leucorrhœa prior to the first menstruation, and several found it cease just prior to or during the first epoch. Two-thirds of these were born in Paris, and of fair complexion, and most of those who resided in the country were of scrofulous habit, but some others were healthy. In 248 women, leucorrhœa has appeared a varying number of years after the first menstruation, and in some, in whom it had existed prior to menstruation, it became increased. In 155, the leucorrhœa appeared just before the menses, was masked by them, and reappeared when these had ceased. In 225 women out of 248 the leucorrhœa returned after menstruation ceased. When leucorrhœa exists prior to menstruation, it retards the arrival of this more than any other cause, and frequently in these subjects the menses do not appear until 18 or 19. Chlorosis is then often present, and the constitution delicate. Marriage more frequently increases than diminishes leucorrhœa, and in many cases produces no effect. It is very common after delivery, and especially after abortion. It is common in young girls, who coming to live in towns are liable to irregular menstruation; in amenorrhœa it is very frequent, and would seem in some measure to supply the defective secretion. In its duration, symptoms, and extent, it much resembles the menses, generally preceding and following them, but not as Baglivi thought, ceasing in the intervals: but the irregularities are too great to allow us to consider it as replacing the menstrual secretion.

B. *Pathology.*

A. *Amenorrhœa.*—This may be—1. *Primary*, as when at the proper period the secretion does not appear: when, however, no symptoms present themselves, no means need be adopted; but when the flow is impeded by a congested condition of the uterus, depletion and baths will be found very useful. 2. *Local*, when an occlusion of the uterus or vagina exists. 3. *Secondary*, or *amenorrhœa from suppression.*

Of 190 cases, the causes of suppression were physical in 68, moral in 92, and unknown in 30. Of all *physical* causes, the operation of *cold* is the most frequent, although habit may overcome this, as is seen in the bathing women; while, in some idiosyncrasies, cold has provoked an excess of the discharge. A temporary amenorrhœa often succeeds inflammatory diseases, treated by depletion, and may also appear during the convalescence of typhus fever. Many medicines also produce it, and especially copaiba and cubebs. Circumstances often modify liability to it in same individual; thus, menstruation was suppressed in a lady by the

application of a few leeches to the epigastrium, while the loss of an enormous quantity of blood from 160 leeches, by the same person, did not, on another occasion, produce the same effect.

In the treatment recommended, the author relies chiefly upon local and general depletion and warm baths. He thinks, however, other means may be necessary; but, he would seem to be little aware of what these are, since he quotes as a novelty a case in which the *pil. aloes c. myrrhâ* was given with advantage.

B. *Dysmenorrhœa.*—This is chiefly found in towns, and Lisfranc states, that it is often hereditary. Our author conveys no additional information respecting this disease, but he has some interesting observations upon some of the ailments afflicting the inhabitants of *convents*. The life of the cloister only commences after menstruation is established, but it is very rare not to find after some years a notable diminution in the quantity of the secretion. The period is usually very exactly observed, but with most nuns a mere show for 24 hours occurs, which, however, slight as it is, seems necessary for their health. Their digestive organs are never in a proper state. There are no acute or gastralgic symptoms present, but rather an inactivity of stomach, accompanied by a sensation of general debility and sinking in the epigastric region. These women, full of the best intentions, are continually struggling against physical debility.

Tonics and stomachics are useless, and often hurtful. A slight papillary redness of tongue gives rise to the belief in the existence of a sub-acute gastritis, or a hyperæmic irritation of the mucous membrane of the stomach, and laxatives, alkalis, and rhubarb, are found very useful. This state of the digestive organs alternates commonly with leucorrhœa, and experiences a sensible remission during, and a few days after, the menstrual period. Vicarious hæmorrhage, and especially hæmoptysis, is often present, from which the general health suffers little, and tubercle does not follow. The nuns are also very liable to diarrhœa, otorrhœa, and obstinate cutaneous affections. Headaches are frequent, and are relieved by purgatives and snuff-taking. These women, although in a bad state of health, frequently live long, and are not liable to acute disease or cancer. Phthisis, however, especially in those convents in which the discipline is severe, carries off a great number.

C. *Chlorosis.*—There are many reasons to believe that chlorosis is a general affection, produced by changes in the quantity and quality of the blood, and analysis proves this fluid to be defective in cruor and iron. Other facts point to the nervous system as being primarily affected; thus, the division of the pneumo-gastric nerve defibrinates the blood, syncope lessens its power of coagulation, and almost any moral impression modifies the sanguification.

It would seem that occasionally chlorosis is a local affection which re-acts upon the general economy; thus, there are young persons in whom menstruation, which has been in vain solicited by tonics, iron, &c. appears immediately after marriage or pregnancy. Other girls presenting all the signs of chlorosis are at once cured by the mere local stimulus of sexual intercourse; while, in other cases, the affection seems

to follow unavailing efforts at menstruation. Although chlorosis often accompanies amenorrhœa, yet the two are not necessarily co-existent; for, besides the fact that chlorosis occasionally occurs in man, so also it may be found in very various states of the menstrual function. It cannot always be said to be asthenic, for it sometimes occurs in females possessing all the attributes of power.

D. *Vicarious Menstruation.*—This is chiefly observed to proceed from the mucous membranes and the skin. It is seen as often in the plethoric as in the feeble woman. The stomach, lungs, and hæmorrhoidal vessels are those which are especially liable to become affected, although any feeble organ, or one to which irritation has been applied, may suffer.

In early life the upper, and later in life the lower parts of the body are those which are usually attacked. The discharge of blood generally appears a day or two prior to the menstrual period, and continues as long or longer than it. Sometimes it slightly co-exists with the menses, when the latter are then but a sanguinolent serum. The suppression of the vicarious discharge must be conducted very cautiously; and, when in a young person the health does not suffer, we must seek to do this only by means calculated to restore the natural menstruation. A mere expectant treatment would, however, not be right if a large flow of blood proceeds from the lungs or stomach. In our endeavours to establish menstruation, bleeding in the foot will often be useful, or, if general plethora be present, from the arm. Leeches to the vulva are very useful. M. Jamin recommends that depletion should only be employed some days after the cessation of the periodical hæmorrhage, in order to avoid any risk of sudden suppression.

E. *Menorrhagia.*—Women living in towns are most liable to this affection. Its danger must not be estimated so much by the quantity of blood lost, as by the comparison of this with the power possessed by the woman.

It is often seen in the newly-married, and especially when intercourse occurs near the menstrual period. It exposes women to abortion, and may lead to organic disease of the uterus.

The various uterine affections occur especially at certain *periods of life.* Thus, at (1,) the epoch of puberty, we find amenorrhœa and chlorosis, which may precede the flow, and these may be followed by dysmenorrhœa or vicarious hæmorrhage, but menorrhagia is then uncommon. In the second, or uterine period, suppression is frequent, but dysmenorrhœa is rarer, especially among the married, as are also chlorosis and vicarious hæmorrhage; but menorrhagia and metrorrhagia are commoner. In the third, or critical period, menorrhagia and metrorrhagia are frequent, vicarious hæmorrhage occasional, and chlorosis very rare.

F. *Influence of Menstruation upon Diseases.*—This is sometimes beneficial, but the menses appearing at the commencement of the disease have occasionally aggravated it; while immediate relief has often followed their appearance as a disease arrived at its height. In chronic disease, especially of the brain, the appearance of menstruation has likewise

seemed frequently beneficial, although it is difficult always to say, whether it is the cause or consequence of the removal of the complaint. The beneficial influence of the *first* menstruation in removing many of the ailments of young girls, and procuring a robust health, is well known. Many affections, such as glandular disease, swellings of the joints, hæmorrhages, incontinence of urine, obstinate cutaneous disease, and especially various nervous diseases, &c. then disappear. On the other hand, it is sometimes associated with the development of grave disease, especially hereditary, as phthisis, syphilis, &c. In this case it is but the occasional cause of the manifestation of a latent predisposition.

The influence of the *cessation* of menstruation upon disease is indeed important, and may manifest itself in various modes.

1. Local Maladies.—Hæmorrhages and the various forms of leucorrhœa are very common, either as resulting from the presence of organic disease, or from a mere congested state of the uterus. Discharges have existed in some cases from 3 to 9 years, and yet have been unattended by organic disease. Cancer and other formidable affections are however but too common, and the author attributes the production of these, in many cases, to too early marriages, and to the too frequent, and too nearly the menstrual epoch, employment of sexual intercourse.

2. General Diseases.—Plethora manifests in various manners upon the different organs, and thus the neuroses, cutaneous diseases, hæmorrhoids, obstinate constipation, dysuria, &c. are produced.

3. Influence on existing Diseases.—The influence of the cessation in developing any existing germ of disease is well known, and there is scarcely a malady which may not become exasperated at this period: yet, as Fothergill observed long ago, some women, who have long suffered from debilitating discharges, seem at this period to acquire a renewed vigour of constitution, and from having been very thin become fat.

4. Proportionate Mortality from Uterine Disease at this period.—Of 721 women there were 373 who had had children, and 81 who had miscarried; of these about a third part had some functional or structural affection of the womb. Many of the women were unmarried—a class of persons peculiarly obnoxious to puerperal disease. It is certain then that after the delivery the womb is liable to various affections, and the critical period of life seems also to arouse these. Of 60 women suffering from uterine lesions, in 35 these came on during the uterine or active period of life; a great majority of these lesions were of an inflammatory nature, and only four cancerous. Women are not aware of the liability of the uterus to become affected after delivery; for nearly six weeks it remains increased in size and engorged, so that, errors in regimen, too early exercise, or too early sexual intercourse, may develop much mischief. Of 25 cases occurring at or after the critical period, 14 were cancerous, and 9 engorgements with discharges. In 6,825 women Madame Boivin observed 409 cancerous affections of the uterus, 203 of the ovary, and 56 of the breast, in all 707. Dionis declares that in 15 out of 20 women the affection only appears at this age. The greater number of women in 57 cases of polypi observed by Dupuytren were aged from 40 to 50.

It is very important to remember that 9 out of 25 of the uterine lesions were mere engorgements; and even affections feared to be mortal have

been sometimes cured after a protracted struggle. The author says that women among the higher ranks, and especially the English at Paris, indiscriminately regard all ulcers as fatal, and thus allow honourable but dangerous scruples to prevent their seeking advice.

G. *Influence of Diseases upon Menstruation.*—1. *Acute.* There is scarcely an acute affection that does not derange menstruation, rendering it irregular and usually suppressing it. This is especially the case with inflammatory affections of the abdomen. As a general rule no special treatment must be adopted deriving the existence of the disease, although, occasionally, a speedy cure has resulted, by deriving the blood towards the genital organs. This, when desirable, is best brought about by depletion from the foot or arm or the use of an emetic; baths, leeches, cupping-glasses, and a ligature, are desirable under various circumstances. 2. *Chronic.* Here too, the usual effect is suppression; and so frequently does this occur in cases of phthisis, that the author thinks it may form one point of diagnosis between this disease and chronic bronchitis. Affections of the heart in their latter stages, of the alimentary canal, and of the liver, often cause suppression, and many lesions of the uterus only manifest themselves by changes in the function of menstruation. Affections of the nervous system, as hysteria and epilepsy, have a notorious effect upon the menstrual function. In insanity varieties in menstruation are very frequent, and, while in a few cases these precede, in the great majority they follow, the loss of reason. In 101 girls affected with distortion of the spine, M. Bouvier found 32 first commenced menstruating while under treatment, in 24 the menses continued regularly, and in 40 they were suppressed, but without serious symptoms. When surgical operations are performed near the menstrual epoch, the menses are frequently anticipated, but when at a distance from this, they are often delayed. Occasionally after operations the wounds discharge blood periodically, and should not then be officiously meddled with.

VIII. ON HANGING. By M. *Orfila.*

M. Orfila, after detailing the particulars of a very interesting case of a man, who was first stifled by his wife and son, and then suspended by a cord, thus reviews the opinions generally entertained as to the signs which distinguish, whether suspension has occurred prior to or subsequent to death.

1. *It is said that in persons hung during life the face will be found livid and swollen; the lips in the same state, and twisted: the eyelids swollen, half-closed, and blueish; the eyes round, and prominent.*

These characters are often wanting in persons who have really hung themselves, while they have been found to exist in other cases where suspension has not occurred until after death.

2. *The tongue is swollen and livid, impressed by the teeth and frequently protruded; a sanguinolent froth is found in the nostrils and gullet, and*

around the mouth. The lungs, heart and brain are more or less gorged with blood.

These signs are of no value, as they are frequently found wanting in persons hung during life, and may be produced by asphyxia from other causes.

3. *There will be ecchymosis from the impression of the cord.*

This is one of the most certain signs, as it has never been produced by hanging bodies immediately after death, although perhaps the experiments have not been yet sufficiently varied to enable us to pronounce from it alone. It is absent much oftener than supposed. Klein found it so in fifteen persons, Esquirol in twelve, Orfila in fifty, Fleischman in five, and Devergie in twenty-five persons, hung during life. So far from being ecchymosed, the subcutaneous cellular tissue, corresponding to the cord, is usually dry, pearly white, dense, and filamentous. A mark of the cord of a livid or black colour, like burned parchment, is however always present, but without ecchymosis; and it may be produced by hanging after death, as Orfila showed long ago in his experiments. There can be no doubt that this mark has often been described by authors as ecchymosis, and we thus see the rashness of the rule given by Belloc, Mahon, Foderé, and others, that, if the impression of the cord was red or violet, the suspension had occurred during life.

4. *Bloody excoriations of the skin, or ecchymoses among the cellular tissue of the neck, the subjacent muscles, or in the neighbourhood of the larynx.*

These are valuable signs, but seldom exist; and unless produced by blows during life or immediately after death, prove that the suspension occurred during life.

5. *Rupture of the muscles or ligaments of the os-hyoides, or tearing of the larynx or first ring of the trachea.*

Morgagni, Valsalva, and Weiss mention these; but Orfila out of 50 cases has only once met with a fracture of the os-hyoides. Moreover, by imparting varied twisting movements to bodies suspended after death, he produced a fracture of the thyroid cartilage but once.

6. *Congested state of the genital organs, and semen in the urethra.*

Our readers are aware that M. Devergie has announced this as a sure sign of suspension during life, and that M. Orfila has denied the correctness of the assertion.* Numerous experiments have convinced the latter observer that it is not uncommon to find semen in the urethra of many individuals who have died of various diseases, and especially if they have lain upon their backs; while, again, by suspending for a few hours the bodies of persons who had recently died, he produced congestion of the genital organs, and even erection of the penis; and in these, the existence of live zoosperms may be proved. In two cases recently observed by

* Medico-Chirurgical Review, Vol. xxxi. p. 551—Vol. xxxii. p. 203.

M. Ollivier d'Angers, in which the bodies were cut down shortly after suspension, a positive flaccidity instead of congestion of the genital organs prevailed.

7. *Rupture of the inner and middle coats of the Carotids.*

This is a sign of little value, for it occurs only rarely when hanging has occurred during life, and M. Malle produced it twice in experiments upon the dead body.

8. *Injuries of the Cervical Vertebræ.*

M. Orfila dwells much upon this sign, believing that it has not been sufficiently investigated, and that several errors prevail respecting it. He proposes six queries upon the subject.

A. Can we, by any violence employed on a suspended corpse, produce a luxation of the 1st or 2d cervical vertebræ?

In 20 experiments, made by employing violent flexion, extension and torsion, and by the application of the additional weight of other persons, no displacement whatever was produced, but a fracture occurred once.

B. By the same means can luxations be produced in other parts of the cervical region?

In these vertebræ the violence produced greater effects: one of the ligamenta subflava was torn, so as to expose the cord to view, and some of the intervertebral substances were more or less torn.

C. Can the first vertebra be dislocated from the second during an execution?

Although this is admitted as possible by most authors on medical jurisprudence, Orfila considers it very doubtful. The statement made by Louis of the executioner of Paris producing this luxation, by springing upon the body of the culprit, as he was turned off, and impressing a lateral movement upon it, is of little value, as that surgeon never assured himself of the fact by dissection. Orfila in his experiments has caused one, two, or even three men to mount upon the suspended body, and has submitted it to every possible movement, without ever producing this effect. So, too, when Petit explains the death of the child lifted up by the chin and occiput, by stating that the odontoid process passed from under its ligament, he does not state that he examined the body to prove whether this was the case. Surely if this accident were of such easy production as some believe, by reason of the slight development of the process in the child, and its slighter retention by the ligament, we ought to see it frequently, and not have to refer to this solitary case; for children are daily lifted up in the same manner. In the author's experiments, the bodies of children from one to four years of age were submitted to all sorts of movements without producing this effect, although in three out of four there was a separation caused between some of the inferior vertebræ of the neck.

D. Can a dislocation of the first from the second vertebra occur in suicide from hanging?

Orfila's experiments, which have embraced movements far more violent than those which a suspended person could employ, prove that this is impossible.

E. Can hanging during life (whether the effect of suicide or homicide)

give rise to injuries of the vertebræ of the cervical region, situated below the second?

M. Orfila, judging from his experiments, answers this query in the affirmative. It is true that the violence required in these to produce this result was considerable, but he can believe, in an aged, or delicate person, the exertion required for committing the act of suicide, may be sometimes sufficient.

F. Can we derive from the condition of the vertebral column signs sufficient to determine whether the suspension occurred during life or after death?

The state of the spinal column taken alone does not enable us to determine this. Although M. Devergie states that injuries to the vertebræ, spinal marrow, muscles and ligaments, are, when accompanied by ecchymoses, signs of hanging having occurred during life, yet Dr. Christison has proved by experiment that all these lesions may be produced by blows inflicted upon the dead body. The various injuries alluded to may have been produced shortly after death, and prior to suspension. If there be fracture of the bodies or processes of the vertebræ, and especially if some of the lower vertebræ are luxated, and their ligaments torn, we must believe that the individual has been killed prior to suspension. Hanging, it is possible, may have occurred during life, but not from suicide.

9. Although the various cadaveric signs alluded to are frequently insufficient to determine the question embraced in this paper, a consideration of the various corroborative circumstances (*e. g.* the length of the cord, the manner of its application, the position of the body, &c.) will frequently enable us to affirm that the suspension has occurred during life.

IX. A very long essay upon *over-excitement of the nervous system*, is a most wordy affair, and we pass on to more interesting matter.

X. HISTORY OF THE DISCOVERIES RELATING TO THE VENOUS SYSTEM FROM THE TIME OF MORGAGNI. By *A. Raciborski.**

A. *The Anatomy.*

The most interesting discoveries which have been made respecting the veins during the present century, are the existence of venous canals within the substance of the bones, and the venous circulation of the spine.

1. *Venous Canals of the Bones of the Cranium.*—It had been long known that an extensive venous communication existed between the external and internal parts of the cranium, but Dupuytren, in 1803, first demonstrated the existence of true canals. Chaussier and Fleury illustrated the same subject, but it was not until 1819 that Breschet published an exact description of them. They are distributed throughout the diploe, communicate freely with other veins, and are lined by a very fine membrane. A great analogy exists between the relations of these vessels to the diploe, and the disposition of the cells in the corpus cavernosum of the penis and clitoris,

* This valuable paper obtained the prize.

and if the substance of the diploe were fibrous rather than osseous, an exact idea of erectile tissue would be presented. This free circulation through the cranial bones explains the sympathies existing between the brain and its membranes, and the hairy scalp, as seen in the occasional effects of erysipelas, eruptive diseases, &c.—the inflammatory condition is propagated by continuity along these veins. Breschet found several of his epileptic patients, to whom the moxa had been applied on the scalp, die of meningitis; and he has often known children die with all the marks of inflammation of the brain, after the use of topical irritants to remove some affection of the scalp—and in all these the diploe was found red and gorged with blood. In the same way, many wounds, contusions, &c. affect the brain. The same occurs in other bones, for Cruveilhier found, in a patient who had sunk from suppuration of the lungs supervening upon amputation, that the phlebitis had commenced in the spongy extremities of the bones of the leg. Necrosis of the bones of the cranium has originated in the same manner. This disposition of the veins explains the effects of leeches, cupping, &c. applied to the scalp in cerebral affections.

2. *Spinal Veins.*—The vertebræ are traversed by venous canals communicating with the great spinal veins. Breschet first demonstrated the beautiful distribution of these latter, which, from their size, seem almost analogous to the sinuses of the dura mater. They constitute a most important medium of anastomosis between the veins of the pelvis, spinal marrow, and pelvis, and indeed every important neighbouring organ in the economy. This junction of so many distinct parts explains many of the simultaneous changes in distant organs, hitherto explained upon the doctrine of sympathy; *e. g.* the occurrence of abscess of the liver after the injuries of the head, for the spinal veins may communicate on the one hand with the inflamed veins of the cranium, and on the other with the vena porta.

3. *Structure of Veins.*—Disputes have long occurred as to the direction of the fibres of the *middle coat* of veins; but Cruveilhier declares that they have none whatever, and that a vein only differs from an artery by the absence of this middle tunic: however this may be, all agree that when the veins enter the parenchyma of organs, they become deprived of all but their lining membrane. Thus, the cells of the corpus cavernosum, and the substance of the spleen, are only extensive venous plexuses, while a great portion of the structure of the uterus is likewise venous, and hence its liability to venous inflammation after parturition. Ribes states that the capillary extremities of the veins are continuous, not only with those of the arteries, but with the cells of the cellular tissue. And speaking of these capillaries, Cruveilhier observes, "they seem to constitute a vast reservoir, in which are transacted all the phenomena of nutrition, of normal and morbid secretions, and of inflammation; in which are deposited with the products of absorption, all morbid matters that are engendered within, or obtain admission from without, into the economy. It is in their extremities that diseases, primarily local, become general. The arteries are but passive conduits of the blood propelled by the left side of the heart. The description of the *valves* by Fabricius left nothing to

desire. The absence of this structure in the veins of the spine, cells of the spleen, &c. seems to permit the blood in these to flow in two directions, and enables these parts to become reservoirs of this fluid, capable of temporary removal from the influence of the general circulation. This disposition however shows the possibility of the reflux of pus from the veins of the diploe to the vena cava. The *vasa vasorum* of veins have now been amply demonstrated. As long as the existence of these was unknown, it was believed that veins inflamed with difficulty. The *sensibility* of veins, even upon irritation of the inner tunics, has been denied by Haller and Bichat, and maintained by Munro, Chaussier, and Longuet. Cruveilhier, denying the existence of fibres in veins, does not believe they possess *contractility*, at least farther than that derived from their outer coat, which is composed of erectile tissue similar to the dartos. M. Berard* first pointed out. that many of the veins are found to be attached to neighbouring fasciæ and aponeuroses, by which means they are during the various movements of the body, maintained in an open state, and prevented collapsing. The vena cava superior is thus maintained by the fibrous prolongation of the pericardium, the vena cava inferior by a fibrous layer from the diaphragm, and the ramifications of this latter in the pelvis are alike supported by the fasciæ. Many other veins are similarly disposed, and if we add to these the sinuses of the brain, the veins of the spine, and the venous canals of bones, we shall observe that a very considerable portion of the venous system has the walls of its canals maintained continually in an uncollapsed state. This disposition of parts plays an important part in enabling the atmospheric pressure to become instrumental in aiding the circulation of the blood.

4. *Anastomoses of Veins.*—The anastomoses of the venous system are far more numerous than those of the arterial; and so especially is this the case with regard to the spinal veins, that if the venæ cavæ and the vena azygos were obliterated, still, through their medium, would the circulation be maintained. There are, in fact, two systems of the venous circulation: one, a superficial one, belonging to the external parts, and the various viscera; another, and deeper, in the interior of the bones, and the cavities of the cranium and spinal column. These two systems may be substituted the one for the other, compatibly with the continuance of life. In fact, as Cruveilhier observes, the entire venous system is a large vascular network, and the blood need not pass through any one invariable and determinate channel to arrive at the heart. There is no organ which may not be said to be in communication with every other organ—an important fact in the consideration of phlebitis.

5. *Anastomoses with the Portal System.*—These do not occur alone in the liver. Cruveilhier has frequently seen injections thrown into the vena cava penetrate the ramifications of the vena porta. Retzius injected the vena cava and vena porta with different colours, and found the colon and meso-colon to be injected with both—the injection coming from the vena porta being nearest to the mucous membrane. Breschet has injected the

* Archives Generales de Medicine, Tome 23.

inferior mesenteric by the vena cava. Schlemn has found communications at the anus between the inferior mesenteric and hypogastric veins. The free intercommunication between the two systems explains how easily disease may be propagated from one to the other, and this may be a reason why abscess of the liver occasionally follows inflammation of the general venous system, as, *e. g.* in uterine phlebitis.

6. *Anastomoses with the Arterial and Lymphatic System.*—The communications between the veins and *arteries* had been fully established prior to the epoch of Morgagni by the researches of Malphigi, Ruysch, Cooper and others; while Soemmering and Prochaska have proved that the mode of communication varies, not only in different classes, but in different organs. The communication of the veins with the *lymphatics* has also been long known, but the mode of anastomosis has given rise to much dispute. Many of the contemporaries of Morgagni maintained that direct communications could be demonstrated to exist between the venous and lymphatic trunks in the mammifera, as they have been since shewn in the abdominal viscera of fish, and the limbs of frogs, by Fohman, Müller, Panizza and others. But the opinion, which has prevailed among all anatomists of modern times (except Monro, Mascagni, and a few others) is, that the only anastomosis which occurs between these vessels takes place in the lymphatic glands.

7. *Venous System in the Embryo.*—M. Serres first shewed that the various stages of the development of the venous system in the embryo resembled the permanent condition of the same system in some of the lower animals. Thus, at an early period, the venæ cavæ are double, and separate, and, gradually approaching inwards from without, eventually form a common trunk. This condition is found a permanent one in the porcupine and elephant, birds, reptiles and fishes. Veins, as observed by Meckel, are far less liable than arteries to anatomical anomalies, and when these do occur, they seem to be true arrests of development, corresponding to the normal condition of the lower animals, as the various examples of double venæ cavæ seem to prove.

B. *The Physiology.*

1. *Venous Circulation.*—It has been too much the custom to attribute this to some one exclusive cause, and thus neglect a general view of the various circumstances which contribute to it. Dr. R. passes these in review.

A. *Influence of the left side of the heart, and of the arteries.*—The action of the heart was believed by Haller, Soemmering, and a host of able physiologists, to be the principal cause of the circulation in the veins; while others, seeing the circulation has continued even when the heart has been enfeebled or removed, have denied this. Among the inferior animals the communication between the two systems is so direct, that little force is required to propel the blood into the veins; but in the mammiferæ, and especially in man, owing to the resistance of the capillary system, and the numerous angles and curvatures, a far greater propelling force is required, and the experiments of Magendie and Poiseuille prove that the heart is a principal agent. The degree of impulse becomes modified by the retarda-

tion which takes place in passing through the capillaries, and by the increased capacity of the venous system; for, as Magendie observes, if the capacity of the arterial system be stated as 1 and that of the venous as 10, it is obvious that, as the blood enters this latter, its impulse must become diminished. Contrary to the opinion of Bichat, the arteries are also instrumental in impelling the blood, by reason of their elasticity, which also converts an intermitting into a continuous movement.

B. *Influence of the Capillary System.*—Some physiologists confer a very exaggerated and almost exclusive importance upon the capillaries. To explain partial changes of colours of the skin, the phenomena of inflammation, &c. Bichat, Beclard, Gerdy, Schultz, and others, believed that the influence of the heart terminated prior to the commencement of the capillaries, and every variety of hypothesis was invented to explain the mode in which these latter acted. The direct experiments of Poiseuille, Magendie, and Dubois prove that the capillaries do not contract, and hence they have no influence in the movement of the blood.

C. *Influence of the Veins themselves.*—If the veins have not coats thick enough to accelerate the circulation of the blood, there are many circumstances connected with them, which facilitate its progress, such as the directness of their course, the numerous anastomoses, the presence of valves, the conical disposition of the apparatus, whereby the blood is constantly passing from a larger to a less space, &c. Any active force the veins may be supposed to exert is due to their elasticity, and to this must be referred all that has been said respecting their contractility.

D. *Influence of contraction of Muscles.*—Any one who has performed venesection, must have remarked the influence of muscular action in accelerating the flow of blood; and Haller ranked this as one of the propelling agents. The irregularity and inequality with which this power is exerted, prevent our considering it as indispensable to the maintenance of the circulation, while under some circumstances it might be the means of impeding it: the abdominal muscles and diaphragm, however, exert, by their regular action, a considerable influence.

E. *Influence of the right side of the Heart.*—This was denied by Harvey, but admitted by Haller, who yet found that it was not indispensable. Most physiologists who have admitted it, have endeavoured to prove an active dilatation of the organ; whether such exists, or that it merely results from the cessation of the systole, it is certain that an aspiration or suction action exists, the effect of which is much increased by the walls of the principal veins being kept, as already observed, in a state of patency by their attachment to the fasciæ. Spallanzani, J. Müller, and Dællinger have proved by vivisections, that the blood flowed far faster in the venous trunks during the diastole, but it is to M. Poiseuille that we are indebted for exact experiments in proof of this.

F. *Influence of Respiration.*—This has caused much discussion. Valsalva first observed it, while experimenting upon the jugular vein of a dog. Morgagni and Haller admitted it as one of the auxiliary causes. Barry, in 1825, revived attention to the subject, and he first proved the actual suction effect of the lungs, and attributed it to the isochronous dilatation of the mediastinum, and of the walls of the thorax. His theory of the almost exclusive effect of respiration has met with many objectors,

who point to the fœtal state and to many of the lower animals, in which the circulation proceeds independently of respiration. This only proves that the agency of respiration is only auxiliary, and not so exclusive as Barry supposed: it cannot influence the capillaries, but only the larger venous trunks, which, as already observed, are maintained in an open condition by the various fasciæ. The experiments of Magendie and Poiseuille prove the limited extent and non-indispensable presence of this influence. The effects upon the abdominal circulation during respiration are due to the pressure of the muscles: the portal circulation is somewhat submitted to this suction action. The knowledge of the influence of atmospheric pressure is not without its applications; thus surgeons well know that in wounds of veins near the heart, the hæmorrhage is great in proportion to the difficulty of respiration; so too, when air has entered the veins during operations, it has done so usually after strong inspirations.

G. *Venus Pulsations.*—Although Poiseuille's experiments prove that during the flow of blood a slight jerking movement occurs in the vein, yet this is not seen through its coats. In an anormal condition venous pulsations have often been observed, (especially in the jugular vein) extending in some cases to the most distant extremities of the vessels. They must be distinguished from the movement imparted by contiguous arteries, or caused by the reflux of the blood in respiration. They have been accounted for in two ways—by the supposition that the impulse of the heart was anormally transmitted through the capillaries to the veins; or, more probably, by the reflux which occurs during the systole of the right ventricle. In almost all the subjects of this anomaly a dilatation of the right auriculo-ventricular orifice has been found, or some change in the tricuspid valve preventing its due application. Morgagni observed that in these cases there was always some lesion of the right side of the heart, usually dilatation of the ventricle. The experiments of Poiseuille and Magendie prove that it may be caused by a dilatation of the base of the venous trunks opening into the heart, and especially the external jugular, a dilatation which renders the adaptation of the valves at these parts impossible.

2. *Venous Absorption.*—The belief in venous absorption entertained by Haller, Meckel and Boerhaave, was not brought into question until about the middle of last century; when absorption was attributed exclusively to the lymphatic system by the Hunters, Cruickshank, Mascagni, &c. Morgagni partook of Haller's opinion, while Bichat believed in the exclusive functions of the absorbent vessels. The experiments of Magendie in our own day are well known. It is by imbibition that fluids pass from without to within the vessels, there being no specific absorbent mouths, as formerly believed. Imbibition is possessed in common by the veins and lymphatics, but, for absorption to take place, it is necessary that the fluid imbibed should be brought within the torrent of the circulation. The lymphatic vessels, being neither filled with fluid, nor traversed by a current, do not fulfil the necessary conditions. The doctrine of venous absorption has modified the theory of certain forms of dropsy, heretofore attributed to atony of tissue or general debility; these may now be frequently explained by an obliteration of the veins, while, as this obliteration equently results from inflammatory action, antiphlogistic treatment is in-

dicated in the early stage. We no longer believe in the existence of absorbent mouths having the power of electing substances useful to the economy, and rejecting noxious matter; but we endeavour to prevent the introduction of poisonous matters into the veins, or when this is impossible, to impede their transmission into the economy; hence the use of the cupping glass, and compression of the veins by a ligature. The experiments of Magendie and Bouillaud prove that the action of a poison may be accelerated or retarded, by relaxing or tightening ligatures attached to the veins corresponding to the part at which the poison was applied. Endermic medicine has derived its present expansion from our improved knowledge of the absorbent system.

C. *The Pathological Anatomy.*

With the exception of a few remarks scattered through the writings of Morgagni and Valsalva very little knowledge concerning the pathological changes in the venous system existed, until the present time. Even Bichat had no idea of these affections which form so important a part of modern pathology.

1. *Redness of the inner Membrane*,—The inner membrane is frequently of a more or less deep red colour, but, when unaccompanied by vascular injection, this probably results from imbibition. The redness is deeper when the blood is in a putrid or very fluid condition. Inflammation may be present without the slightest redness, and, as a general rule, redness arising from this cause is less in extent and intensity than when resulting from imbibition; it is often dispersed in little patches or points.

2. *Secretion of Plastic Lymph and formation of Clots.*—The most simple form of alteration in secretion, is the exudation of a plastic lymph, analagous to that uniting wounds, and by which the canal sometimes becomes *obliterated.* At other times it takes the form of *false membrane*, which may more or less occupy the calibre of the vessel, or lie in layers without obstructing the circulation. These membranes are usually amorphous, but Ribes found them organized in one case. More frequently *clots* are found within the veins, uniting their walls more or less closely; they are sometimes several in number with portions of vein between them. The clots become deprived of their colouring matter and serosity, and fibrine, adhering to the walls of the vein, alone remains: this is sometimes transformed into an organic and vascular substance, commencing with the circumference. These changes take place only in veins which are secondarily obstructed by other clots, formed in the immediate vicinity of the inflamed vessel: in the latter, instead of an absorption of their various parts occurring, they become decomposed, and pus is generated. When the capillaries are affected, a greater volume or tension of the parts may exist, without any great obstruction of the circulation; but when a principal trunk is affected, the various ramifications become distended, a swelling is formed below the obstacle by the deposition of serum in the cellular tissue, and the capillaries may rupture and cause ecchymosis. When the sanguine concretions do not disappear with the other marks of phlebitis, they become an organized obstruction to the calibre of the vessels, and more or

less infiltration occurs. Spontaneous *gangrene* arises from obstruction to the circulation; and, if it is the obstruction of the arterial system to which it is usually attributed, this is because the anastomoses of the venous system are so numerous that its complete obstruction is of rare occurrence.

Godin maintains that the source of the obstruction may be known from the nature of the gangrene; when this is moist, it is caused by impediments in the venous, and when dry by impediments in the arterial system; and, whenever in the course of a case of gangrene, humidity appears, the extension of the obstructing cause from the arteries to the veins is indicated.

3. *Pus in the Veins.*—The change of the clots into pus may sometimes be traced in all its phases. It commences at the centre; the pus is sometimes laudable, at others very dark, while it may be in so small a quantity as only to render the blood darker and more fluid. It is found in the ramifications of the parenchyma of organs, as well as in the trunks: large collections have sometimes formed between the valves, and given rise to all the appearance of a true abscess. The vein may burst in some parts, and numerous abscesses are formed along the course of its trunk. Sometimes the pus is infiltrated between the coats of the vein, or into the cellular exterior. Veins frequently contain pus after amputation.

4. *Coincident Affections of the Viscera.*—The coincidence of suppuration of the liver, with suppurating wounds of the cranium, having attracted attention, it was believed to be a pathological law. Valsalva and Morgagni first limited the number of these cases, and proved that the liver was not the only organ liable to be so affected. The depositions of pus are more frequently found in the lungs and liver, although they are seen occasionally in various other organs. The walls of these abscesses are sometimes naked, at others lined with soft false membranes. The tissue of the organ in which they are situated often seems little injured. Many explanations of these occurrences have been offered. The most ancient and general, is that given first by Morgagni, viz. the transportation of the pus by the veins from the suppurating wound to the affected organ. But we now know that when pus is found in veins, it is formed primarily within them, and has not its source from without. John Hunter first described the state of phlebitis in veins after amputation; and since that period, a crowd of celebrated men have published upon inflammation of the veins. In 1819, Breschet published, in his valuable translation of Hodgson, many examples of phlebitis; but he does not notice the frequent coincidence of visceral abscess and solutions of continuity. Dance was the first person in France who expressed himself as satisfied that the pus proceeding from the phlebitis, and mingling with the blood, was the cause of the production of the other special inflammations. His opinion has been adopted by Blandin and Cruveilhier, and is very general at the present day. Objections to this theory have been frequently offered, especially its application only to some of the cases: thus, Velpeau met with 13 cases of these visceral abscesses, in which no phlebitis was discovered. Tessier has met with similar cases, and observes, that even if phlebitis were present the

resulting pus, blocked up by clots, could not become mingled with the blood. Tessier explains all the lesions which succeed to wounds and delivery by the existence of a purulent diathesis, but to this there are also objections, for persons in whom these lesions occur, prior to their appearance, often manifest no signs of bad health. Dr. Raciborski suggests that all the phenomena in these cases, like the analogous ones of variola, glanders, and the various eruptive fevers, bear a strong analogy to the chemical process of fermentation. A small portion of the febrile poison, introduced into the blood, generates an immense additional quantity of poisonous matter. He considers that the poisonous matter in the present cases is pus in a state of decomposition; and adds, that although most veins are plugged up, as Tessier observed, this is not the case with the veins of the bones and those of the uterus. In these, complete obliteration rarely exists, and it is to be remembered, that it is especially after amputation, and after delivery that these affections occur. Often, too much importance is attached to anatomical lesions, and, in this way a change really due to the primary change in the blood itself may be improperly attributed to phlebitis. Thus, wounds from dissection have been attributed to phlebitis, and yet the very cauterization, so useful in relieving them, would but increase it. Phlebitis does not exist, but, by the cautery, we succeed in chemically destroying the matter which is in a state of decomposition. If it does occur in these cases, it is only consequent upon the altered condition of the blood. So, in glanders, in which purulent deposites, so analogous to these we are considering, are produced, phlebitis has not been discovered to exist.

5. *Air in the Veins.*—Morgagni explained the occurrence of death from the injection of air into the veins, by the consequent distension of the heart preventing its contraction—analogous to retention from distended urinary bladder; and it is certain that in most animals, which have perished from this cause, the right side of the the heart has been found filled with frothy blood, and distended with air. Magendie, Dupuytren, Delpech, &c., have shewn that the accidental introduction of air into the veins must occasionally be considered as a cause of death during operations. As it only follows operations about the neck, the suction power of the lungs, acting through the veins which are maintained in an open condition by the fasciæ, has been assigned as the cause of the entrance of the air. The experiments of M. Amussat, in 1838, threw much light upon this subject. Of 26 animals, in whom a vein of the neck was opened, all died shortly with the exception of two, and the same auscultatory sounds and post-mortem appearances were observed, as are found in men who have thus perished during operations. The abstraction of a small quantity of blood renders the death only more speedy. These experiments proved that an open state of the veins is indispensable, and when this does not exist naturally, it may frequently be induced by some pathological cause, as the adhesion of tumors, &c. The same effects resulted from operating on other veins besides those of the neck, providing they were maintained open artificially, and this may explain some cases of sudden death in parturition.

It also results from these experiments, that death is sudden in propor-

tion as the introduction of air is forcible; when this is not the case, death is not an indispensable circumstance, and many cases are on record of the alarming symptoms produced by this accident gradually disappearing.

D. *The Pathology.*

1. *Phlebitis* —Phlebitis may be produced by any irritation acting directly or indirectly upon the coats of the veins, as, solutions of continuity, ligature, phlegmon of various organs, &c. Ribes gives a case of phlebitis in the arm from chilblains on the hand. Cruveilhier and Fozeau, two cases of hepatic phlebitis from inflammation of the intestinal tube and biliary ducts. Andral and Bouillaud cite similar facts. Metastasis has been accounted a cause also, of which a remarkable example was offered in a person, who, afflicted with a chronic pemphigus, dried it up with some quack ointment, and, in forty hours, was seized with typhoid symptoms and died. Upon examination the vena cava was found injected, and the structure of its inner membrane materially altered in texture. There are several varieties of phlebitis.

A. *Traumatic Phlebitis.*—(1). *From Venesection.*—This serious accident is especially liable to occur in some constitutions. Hunter looked upon the suppurating condition of the edges of the puncture, which is more likely to occur when these are not well closed, as very favourable to its production. The inflammation usually comes on in a few hours, follows the course of the blood, and sometimes extends to the heart itself. In two or three days a little pus may be forced from the vein. The constitutional irritation is great. By reason of the anastomosis the circulation is not impeded, but considerable temporary contraction of the arm may occur, from the spreading of the inflammation to the fasciæ and cellular tissue. When a large portion of the veins of the part are affected, or the suppuration is abundant, the case often proves mortal. Sometimes, all the symptoms of the most terrible prostration occur from very inadequate local mischief, and then probably depend upon a change to which the whole mass of the blood has been subjected. Such symptoms are occasionally not manifested until after cicatrization has occurred.

(2). *After Amputation.*—Hunter first described this, and attributed to it much of the general febrile irritation occurring after amputation. Blandin has remarked, that it especially affects the small veins. How are these accidents produced? By irritating the veins by the application of the knife, ligature, dirty instruments, &c.? How happens it, then, that irritating substances may be injected into the veins without producing scarcely any ill-effects upon the lining membrane? The various changes probably arise from a primary affection of the blood, produced by the introduction into it of matters in a state of decomposition; whether this arises from the employment of foul instruments or dressings, or from their presence in a tainted atmosphere. The ill-effect is confined to the course of the blood, and does not manifest itself in a double direction. The small puncture of venesection, or the ligature of veins after operations, will never account for the general symptoms which result. The blood, once changed by contact with matters in a state of decomposition, the pus

produced by the consecutive phlebitis, will doubtless render the symptoms yet more severe.

B. *Umbilical Phlebitis.*—This has been noticed by Meckel, Sasse, and Osiander; and M. Duplay has lately published several cases. Usually, from the second to the fourth day, but sometimes as late as the eighth day, the child is seized with violent colic, distension of the belly, &c.; the skin often becomes icteric, &c. the mucous membrane of the mouth is reddened: erysipelas is frequent, and usually commences at some part distant from the umbilicus. Death takes place from the 4th to the 14th day after birth. Besides marks of inflammation in the umbilical veins, the same have been found in other organs, as the pleura, the peritoneum, the lungs, the joints, &c. This suppurative form of the inflammation is very rare, while the adhesive form is almost as common as the ligature of the cord: and to the consecutive excitement of the liver by this inflammation, the author is disposed to attribute many cases of jaundice in new-born children. Andral and Ribes cite cases of jaundice in the adult, which were produced by a phlebitis extending from the upper portion of the digestive canal to the liver, through the branches of the vena porta.

C. *Puerperal Phlebitis.*—Phlebitis occurring after delivery is the most important form of the affection, and may be divided into several varieties.

(1.) *Adhesive Uterine Phlebitis.*—According to the author, there can be no delivery without more or less adhesive phlebitis. (!) Usually it is confined to the portion of the uterus, where the placenta was situated. He agrees with Cruveilhier in considering a woman recently delivered in an analogous condition to one who has undergone a surgical operation, or received a wound, and that the consequent re-action in both cases, often in the one attributed to milk fever, is produced by the consequent phlebitis. The period of the appearance of the fever, and the fætor of the discharges confirm the analogy. Occasionally the adhesive form will extend to the larger trunks.

(2.) *Suppurative Uterine Phlebitis, producing Puerperal Fever.*—The resemblance of the symptoms in these cases to those produced by injecting putrid matters into the blood, induced Dance to attribute them to the admixture of pus with the blood; but many cases of puerperal fever occur in which no traces of pus are found in the veins; and Tonnellé relates others, in which no lesion in the uterus or its vessels was discoverable. Nonant, in the cases at the Hôtel Dieu, could discover no pus in the veins, but the lymphatics were filled with it. Our author states that, as puerperal fever usually arises amid circumstances favourable to the decomposition of animal matter, it is reasonable to believe that the fluids secreted by the veins in these cases undergo a decomposition, and thus infect the blood with which they are in contact.

(3.) *Phlegmasia Dolens.*—This is now generally admitted to depend upon phlebitis. We need not detail symptoms of an affection so well known, but will merely quote the remark, that, even when the affection extends to the vena cava, it is not necessarily fatal, (and indeed it seldom is ever so from its mere local effects); for, supposing all inflammatory symptoms to have subsided, and there is simply an obstacle to the free passage of the blood, the collateral circulation will prevent any dangerous effects arising therefrom. M. Hourmann relates a case in point: a phlebitis of

the vena cava inferior was produced by a fall, and was accompanied by swelling of the extremities, and difficulty of respiration. The superficial veins of the abdomen acquired a largely increased development, some of them equalling a large quill in diameter, and the patient soon manifested every sign of good health.

(4.) *Capillary Phlebitis.*—M. Cruveilhier states, that in all phlegmasia the venous radicles are specifically affected; that, in fact, these parts are the essential seat of inflammation, *which is neither more nor less than a capillary phlebitis.* His reasons for this opinion may be found detailed in the 12th vol. of the Dict. de Med. and de Chir. Prat.; and we will only observe that among these is the fact, that injections of irritating substances into the arterial system only produced gangrene, while the same, thrown into the veins, gave rise to the production of phenomena of inflammation, among which were œdema of the limbs, apoplectic effusions into the substance of the muscles and cellular tissue, and abscesses around the suppurating veins.

2. *Varix.*—M. Briquet has endeavoured to prove that the varicose dilatation of the veins is not a mere distension of their walls, but results from "an actual increase of the number of molecules necessary for their nutrition." The varices of the genital organs were formerly divided into two varieties, viz. those of the spermatic chord termed *cirsocele*, and those of the testes termed varicocele; but the distinction is not now continued, both being considered but as different degrees of the same affection. Although, according to Delpech, varicocele is usually observed among adults and the aged, yet, Landouzy found, out of 45 examples, 13 were from 9 to 15 years old; 29 from 15 to 25; and 3 from 25 to 35. Females are occasionally subject to it. Of all veins those of the genital organs are most liable to become varicose, for reasons well stated by Morgagni in his 43d letter. He also explained that the affection is more frequently found on the left than on the right side, because the left spermatic vein does not discharge itself directly into the vena cava, but into the left emulgent vein. Callisen and Petit attribute this to the pressure of the fæcal matters in the sigmoid flexure of the colon. The veins are also usually more developed upon this side, while the testis is larger and hangs lower down. The affection is sometimes hereditary. There does not seem to be any relation between varicocele and a varicose state of the veins in other parts. Among 20 persons having varicose veins, Landouzy did not find one with a varicocele. When the varicocele becomes very large the testis may suffer from *atrophy*, and Landouzy says he has observed this nine times in 13 cases. Cooper and Velpeau regard this complication as exceedingly rare.

E. *The Treatment.*

1. *Phlebitis and its Consequences.*—An improved pathology has necessarily given rise to an improved treatment. Our attention is no longer turned to the relieving the nerve or tendon supposed to have been wounded in venesection. So after amputation we do not now seek to prevent the absorption of the pus by irritating applications, or by the use of blisters. We place the patient in as healthy a locality as possible, prevent the ac-

cess of air to the wound, and moderate the inflammatory state of the veins by judicious antiphlogistics. As to puerperal fever, a chaotic mass of remedies has been employed: its treatment as a pure phlebitis has been too enthusiastically conducted. If it depends upon the decomposition of the fluids of the uterus, and their conveyance into the mass of the blood, as the author supposes, it is of the highest importance that the disposition to this may be checked, as far as possible, by permitting the patient to remain in a healthy atmosphere. At the Hôtel Dieu M. Caillard placed his puerperal patients in a ward, situated at the highest part of the house, isolated from the other patients, and taking care not to have it crowded. He lost but one patient in 25. In 1831 the ward by accident became very crowded, and numbers died of puerperal fever, while, as soon as it was restored to its original state, the mortality diminished. Every one knows the difference in puerperal mortality in hospital and private practice.

2. *Varix.*—We need not detail the various operations and modifications of operations proposed for this by Fricke, Velpeau, Delpech, Breschet, and others, as they are to be found in all recent surgical works; but we think the following observation well worthy of extract:

"It is the duty of the surgeon, in determining upon the operation, to be careful and not risk exposing his patient to consequences a hundred times more dangerous to him than the declining it altogether would entail. He must especially recollect this, as M. Velpeau remarks that it is very rare to obtain a radical cure of a varix. Generally, as soon as one venous trunk is obliterated, two or three neighbouring ones become varicose."

3. *Introduction of Air into the Veins.*—According to Amussat and Velpeau, the preliminary pressure of the chest and walls of the abdomen is of no avail in preventing this occurrence; and the latter surgeon attaches no importance to the recommendation of Larrey and others to compress the vein between the heart and the wound, indeed it is frequently in a deep wound impossible to do so. Amussat thinks that, when the air has entered, suction by means of a glass syringe, introduced into the wounded vein, and directed towards the heart, should be employed.

XI. ON THE EFFECT OF A MORAL REVULSION IN THE TREATMENT OF INSANITY. By *M. Leuret.*

M. Leuret believes that insanity will be little benefited by treatment directed to the condition of the bodily organs, unless there be any specific symptoms referrible to their disordered state; and that our great dependence in treating nearly every case is in the judicious management of the moral treatment. We believe every body acknowledges the great importance of this now-a-days, and it seems no novelty upon the part of M. Leuret to announce that it may be conducted in two modes; either by endeavouring to restore the disordered functions to their normal condition, or by operating through the medium of those which remain unaffected, or indeed, as is usual, by a combination of the two. But it is especially upon the

second mode, which he designates by the fanciful term *moral revulsion*, that the author relies.

"I have surrounded," says he, "many of my patients who were of an unsociable and insensible nature, with every means I believed calculated to awake their attention, and to arouse desires within their breasts. Other means failing, I have satisfied the cravings of some and created wants for others, in order to increase the extent of their life of relation. For several, plays—for many, music—and for all, as frequently as possible, intercourse with intelligent persons, have been had recourse to. Some lunatics I have attacked as an adversary ready to struggle with their delusion to the utmost, opposing opposite passions to those which predominated, ever bearing in mind the precept of Esquirol, that to truly benefit a lunatic, one must love him and devote oneself to him; and in my most persevering struggles against his delusions, I have never forgotten that the unhappy creature with whom I was struggling was a human being. The insane must not be allowed to perceive that you are engaged in producing this revulsion or distraction of ideas, which they will soon do if care be not taken, and they then frequently thwart all your endeavours."

Pinel and Esquirol adopted this mode of proceeding, but those who believe insanity results from organic changes in the brain, consider moral treatment as a mere secondary matter. If, as the author states, he has an abundant supply of cases illustrative of the success of this plan, he has made a most unfortunate selection of the two he has published. In one of these a lady believed herself to be in turns a nun, a priest, and the pope, but was sufficiently sane in other respects to permit the author to engage her in various studies, in order to remove her delusion, of the existence of which she was perfectly cognizant, as also to promise him never to refer to it. In the other, a lady, who had remained obstinately dumb for eighteen months, was cured by her physician feigning dumbness, and by the fear of being obliged to submit to some disagreeable remedies.

Of such cures as these a very moderate experience in treating the insane might supply an abundance. In moral treatment, the author adds, little success, and often positive harm, has attended the attempts of directly attacking the cause of delusion. It is by revulsion that we may always, at least for the time, give new force to the understanding. The means of doing this are infinite, and the skill of the physician is shown in their individual application—all that strikes the attention, arouses the energies, exercises the judgment, or excites the passions and desires, may be made available. The great difficulty to prevent, and yet the great object to overcome, is the state of languid torpor into which the insane are so apt to fall, even when surrounded by every means of distraction, when left to apply these of their own accord. They require continued care, indefatigable surveillance, and individual application of the means of revulsion. Bodily labour is useful, but it does not prevent the wandering of the ideas, in the same way in which well-directed mental labour does—a labour which obliges them to concentrate their attention upon some determinate object. The greater numbers in which the insane are assembled together, the greater is the importance of a due exercise of their intellectual and moral powers. Schools for these objects should be established in every asylum; one has already been founded in the Bicetre, to which an instructor and music-master have been appointed.

"Here, writing, reading, arithmetic, geography and history are taught: some patients are so occupied all day, and others only after employment in the fields and workshops. Some of the most heavy or stupified are exercised by dancing or gymnastics; while in the evening, all well enough are assembled together, and the day is terminated by music or singing."

No person can object to the moral treatment of insanity, and least of all any one in this country, where so much has been done of late in improving it—but we must suggest that there is a danger in carrying *intellectual labour*, so strongly recommended by the author, too far, for it may happen that in relieving one form of insanity we are laying the foundation for another.

By removing the delusions of the insane we do not always succeed in obtaining for them strong head-pieces.

XII. A MEMOIR ON THE ANATOMY OF THE BRAIN. By M. *Foville.*

This is a very important paper. The author states that his researches carry out in the brain the theory which Charles Bell has established respecting the spinal marrow, viz. the existence of different orders of roots of the spinal nerves, and of the bundles of the spinal marrow whence they arise. At first sight, the difficulty attending the investigation as regards the spine would seem to be increased when it became extended to the brain; but in this latter we are at least certain that the optic and olfactory nerves are exclusively sensorial, in spite of all that has been of late said concerning the influence exerted by the fifth pair upon the organs these supply.

"If, then, I can demonstrate that there exists between the optic and olfactory nerves and the brain, cords and planes of nervous matter, combined with this organ in regions, perfectly distinct from those fibres, which, proceeding from the anterior pyramids, spread into the cortical substance of the convolutions, I shall have shown the anatomical disposition of that, which pathology has already taught us, viz the distinct routes by the medium of which the brain influences the muscles, and those by which the impressions derived from the organs of the senses reach it."

To give an abridgement of this demonstration would render it unintelligible, so that, not having sufficient space at command, we must defer presenting the entire translation until another opportunity. We can only glance at some of the author's conclusions.

"Thus, the corpus callosum is a large commissure of the encephalic prolongations of the posterior bundles of the spinal marrow, and the plane of the hemisphere is the uninterrupted prolongation of the anterior bundles of the spinal marrow. * * * * * * * *

The anterior commissure unites, from one side to another of the brain, those parts which are at once continuous with the posterior bundles of the spinal marrow, and with the sensorial nerves of the brain. The auditory nerve also, although arising in so remote a part of the brain, may be traced into those parts of the organ we have been describing. * * * * *

On the other hand, the fibrous planes of the hemispheres, emanating from the anterior pyramid of the spinal marrow, proceed to the internal surface of the

cortical substance, without any communication by means of commissures uniting to fibrous planes of the one hemisphere with those of the other. Moreover the order of parts spring from the posterior portion of the spinal marrow, present in their course greyish swellings which most anatomists regard as ganglions, with which they are in connection, and from which they receive numerous fibres: but the other order of parts traversing the circle formed by the first and their ganglions, are never brought into direct relation with these ganglions.

I draw the following physiological corollaries :—

1. The fibrous parts of the brain seem to be simple conductors, the cortical substance of the convolutions in which these terminate being the essentially active portion. 2. The fibrous portions, intermediate between the convolutions and the anterior pyramids, are devoted to the transmission of the influence which determines voluntary movements. 3. The fibrous portions, communicating between the sensorial nerves and the cortical substance, and in whose course ganglionic swellings are found, transmit the sensorial impressions to the brain.

It is lesion of the cortical substance that is usually observed in changes of the brain produced by insanity. The atrophy of the convolutions, and the substance of the brain, so frequently seen in dementia, seems to result from the abolition of the functions of the grey portion—the fibrous substance in connexion with it, thence becoming atrophied, as do the optic nerves in the blind. Pathological anatomy presents many examples of lesions of the portions of the brain intermediate between the convolutions and anterior pyramids, of which the cross paralysis of the active organs of motion is a frequent consequence. The fibrous substance intermediate between the convolutions and the organs of the senses is less frequently affected pathologically :—the existence of so many commissures render the abolition of the transmission of the impressions difficult to effect, for, by means of these, each sensorial nerve is in relation with each hemisphere, while each motor nerve is connected with but one.

Comparative anatomy teaches us that in brutes the intermediate portions between the senses and the brain, become developed in proportion to the activity of their organs of sight and smell; while those parts, the lesions whereof in man are attended with intellectual disorder, or muscular paralysis, are found to be in animals proportionally feeble to their slight manifestation of the functions supposed to be dependent upon them." 682.

The author terminates his paper by observations on the relative form of the cranium to that of the brain; and endeavours to prove that the various frontal, occipital, and parietal protuberances depend upon the formation of the ventricle.

"The form of the brain and the form of the cranium are alike determined by the form of the proper serous sacs of the hemispheres, constantly filled with their natural fluid."

XIII. ANTHELMINTIC SUBSTANCES EMPLOYED IN ABYSSINIA. By M. *Aubert*, M.D.

M. Aubert having resided some time in Abyssinia, observed that the inhabitants suffered but from two diseases, viz. *syphilis*, which has ravaged the country for 300 years, and for which no remedy is known; and *tænia*, which prevails almost universally, but for which they have three most excellent remedies. These are the flowers of the *coussou*, a magnificent and lofty tree, the bulb of the *abbatsjogo*, and the bark of the *bisenna*. These

plants he thinks might be naturalized in Europe. He attributes the almost universal prevalence of tænia to the circumstance of the Abyssinians living upon *raw meat*. The few Mussulmen, who are in the country, abstaining from this, never become affected, and those Europeans, who lived as the Abyssinians, became like them, infested with the worms, while those who avoided doing so escaped.

XIV. REDUCTION OF A CONGENITAL DISLOCATION OF THE HUMERUS AT THE END OF SIXTEEN YEARS. By Dr. *Gaillard*.

The head of the bone was thrown backward into the infra-spinal fossa of the scapula. The reduction was accomplished very gradually, by means of the pulleys, at several sittings, of about 20 minutes each, and did not occasion much pain. Great difficulty was experienced in maintaining the bone in its place, as every muscular movement threw it out again, when however it was easily reduced again. Considerable pain and irritation followed the attempt to maintain the parts in situ by position and bandages.

The cure occupied several months by reason of the pain and swelling, but was eventually complete: and the author, seeing the patient two years after, found the head of the humerus maintained in its proper situation, and that all the normal movements of the extremity could be executed.

Our readers will have observed that this volume of the Transactions of the Academy contains much valuable matter.

ON RHEUMATISM IN ITS VARIOUS FORMS, AND ON THE AFFECTIONS OF INTERNAL ORGANS, MORE ESPECIALLY THE HEART AND BRAIN, TO WHICH IT GIVES RISE. By *Roderic Macleod*, M.D., Physician to St. George's Hospital. Octavo, pp. 164. Longman and Co. 1842.

THE Author of this volume is a plain practical physician, who is not dazzled by, nor dances after, fanciful theories and far-fetched hypotheses; but observes carefully, records faithfully, and reasons closely. A portion of the present small volume formed the substance of the Gulstonian Lectures delived at the College of Physicians, in 1837; but great additions are now incorporated with the original Lectures. The author significantly remarks that "nothing would have been easier than to have doubled the size of the present volume by the insertion of cases; but the author has been anxious to avoid this (*for reasons which those acquainted with modern medical literature will readily appreciate,*) and has, therefore, restricted himself to a few illustrations required to elucidate some particular subject." —*Pref.*

The numerical returns and calculations are taken exclusively from cases which occurred under the author's care in St. George's Hospital.

The work is divided into fourteen chapters, each of which we shall cursorily notice.

CHAP. I.—Dr. M. considers *atmospheric vicissitudes* as the grand cause of rheumatism, doubting the causation of malaria or other aerial impregnations. The predispositions favouring the operation of these atmospheric transitions, are hereditary tendency—debilitating agents—and former attacks. We may here remark, however, that atmospheric transitions, when accompanied by malarious impregnations, or even simple moisture, are infinitely more operative and injurious than when these are absent. Women are less frequently affected than men, by acute rheumatism, but this seems to result from their less exposure to the causes.

Two-thirds of the cases happened between the ages of 15 and 30 years, but no period, from infancy to old age, is exempt from this painful malady. Still it is *comparatively* rare after the age of 50, in its form of rheumatic fever; but in the form of acute, or subacute rheumatic gout, it is very frequent in the advanced epochs of existence.

Its chief seat is the fibrous textures—a wide and extended tissue—sheathing the limbs—constituting the ligaments and tendons—enveloping the brain—and entering into the periosteum. The following are the forms which rheumatism chiefly assumes on external parts:—

"1. The patient may be attacked with pain in one or more joints, with tumefaction and redness, spreading to a greater or less extent over the surrounding parts. The swelling is here external to the joint, the hollows and protuberances about which are obscured, apparently by effusion into the cellular tissue. In this form the disease rapidly shifts its seat, and is accompanied by acute inflammatory fever.

2. In another case the joints likewise are affected, but in a different manner from the preceding. The pain is more limited, and the swelling evidently depends upon effusion into the capsule, which is seen to bulge at those points where the surrounding ligaments present least resistance. The bursæ of the tendons are also frequently implicated, and become distended by an increased effusion of their lubricating fluid. In this form of the disease there is less redness, and usually less violent fever, than in the preceding.

The great practical distinction between these two forms I believe to have been first made by Dr. Chambers: certainly others, who have not always remembered the original source of their information, were, like myself, first taught to make the distinction systematically, when following his practice at St. George's Hospital.

3. In a third form of rheumatism the pain is chiefly referred to parts intermediate between the joints, and seems to be seated in the muscles or their aponeurotic coverings. Here the pain, though it may be exquisite on the slightest movement, is not unfrequently entirely absent when the parts are quiescent: and here, too, there is often little or no constitutional disturbance.

4. In a fourth variety the disease affects the coverings of certain bones, especially those which are but slightly protected by integuments—such as the shin, the ulna, or the cranium: and under such circumstances there are often spots or patches more painful than the rest, tender to the touch, and elevated into nodes

5. Lastly, the pain sometimes follows the course of particular nerves, more especially those of the lower extremities, and is occasionally confined to a narrow

line, which the patient can trace with his finger. In such cases the power of moving the limb is occasionally affected to a greater or less extent.

Now, although all these be usually classed together under the general appellation of rheumatism, they are affections so different in their phenomena and treatment, that it is impossible for them to be understood, either theoretically or practically, unless the distinctions alluded to be borne in mind; and without assuming that the textures specified are exclusively affected, or that the names are altogether free from objection, we shall proceed to speak of them as *Rheumatic Fever*, the *Arthritic* or *Capsular*, the *Chronic* or *Muscular*, the *Neuralgic* and the *Periosteal* forms of rheumatism." 11.

CHAP. II.—RHEUMATIC FEVER.

When we consider the great number of cases of rheumatic inflammation which occur in every man's practice, and contemplate the havoc produced by the sequences or consequences of this disease—affections of the head, the heart, pleura, peritoneum, &c.—we may safely say that, next to phthisis, it is the most afflicting scourge of this country. In hospitals, for obvious reasons, these cases accumulate so much that the medical officers of these institutions are apt to consider the disease as still more prevalent than it really is.

In this form pain is rarely absent, but varies in different individuals to a remarkable extent. It is aggravated by motion or pressure—and is always worse in the night, when the sufferer has most need of repose. There are generally pyrexial symptoms, with wandering pains for some hours, or even days, before the localization of the inflammation takes place—when one or more joints become painful, swelled, hot, and red, with remarkable tendency to shift its place from one joint to another. Generally, indeed, the inflammation subsides in a few days from the joint first affected, and springs up in another—thus invading new parts, or returning to its pristine seat. In a small proportion of cases the shoulders, loins, and back are invaded, but seldom present the redness and swelling as in the joints. Very little permanent change remains in the parts after this form of acute rheumatism has subsided—marking its distinction from the synovial, capsular, or arthritic inflammation. The scalp is more frequently the seat of this phlogosis than the integuments of the trunk. Rheumatism of the intercostal spaces and muscles is sometimes mistaken for pleurisy, by young practitioners, but the diagnosis is not difficult.

"The least touch is acutely felt in rheumatism, whereas, to increase the pain by pressure in pleurisy, it must be made between the ribs, and pretty firmly. It is also to be distinguished by the partial or complete freedom from suffering when the ribs are fixed, and respiration is carried on by means of the diaphragm—by the circumstance of cough being absent, or at least not necessarily present, in rheumatism, whereas in pleurisy it is rarely wanting—by the degree of constitutional disturbance being much less than in pleurisy, if the rheumatism be confined to the parietes of the chest, while its appearance elsewhere, if it be not so confined, renders any other diagnostic mark almost superfluous." 19.

Rheumatism, however, is liable occasionally to attack any fibrous or tendinous structure in the body.

"The constitutional disturbance which attends acute rheumatism is of a well-marked and striking character. When any of the dense ligamentous structures are in a state of active inflammation, the general system sympathizes largely with the suffering part, in fact, it would appear that the less vascular and more insensible the texture, the more ardent is the fever which is lighted up when it does become inflamed. So, in this form of rheumatism, we meet with nearly as violent specimens of re-action as we are ever called upon to witness. The chilliness or shivering with which this, in common with other acute fevers, is ushered in, having passed away, becomes speedily followed by great heat of skin, with copious but partial perspirations, which are almost invariably acid, rapidly reddening litmus paper, and often exceedingly sour to the smell The pulse increases to 90, 100, or 110, in frequency, and has a peculiar character. In books it is usually stated, rather emphatically, not to be hard; but I do not think this quite correct. The pulse is large, full, and active; not so hard as the small, concentrated, incompressible pulse of serous inflammation, but often quite as hard as a pulse of such size can well be supposed to become. The heat of skin and activity of the pulse bear a relation to each other, as might be expected; and sometimes both are less exalted than I have above supposed, the heat being moderate, and the pulse large, but soft. Such cases usually yield to treatment more speedily than the others.

The tongue, where the fever runs high, becomes deeply loaded, white, and clammy, or even yellowish and dry. No acute disease, except continued fever, exhibits so thick a fur, and the coating of the tongue is even more uniformly present in acute rheumatism than in the common fevers of this country. The appetite is impaired, but generally not so absolutely annihilated as in fevers proper; there is also much less urgency of thirst. The bowels are sluggish and loaded, the evacuations usually dark and offensive. The urine scanty, generally much, and sometimes prodigiously, loaded with the lithates.

A remarkable difference between this and other forms of fever approaching to it in violence, is the comparative infrequency of what are called nervous symptoms. Delirium is a very rare occurrence; indeed I have never seen it, so long as the rheumatic inflammation has been limited to the external parts, and in many very acute cases there is no headache from first to last." 22.

Under ordinary treatment, Dr. Macleod considers that this form of rheumatic fever lasts five or six weeks; but we know, from pretty extensive experience, that it "may be often speedily extinguished if met at the onset by appropriate means."

Where the heart has escaped injury, the recovery is generally complete; but the disease is very liable to relapse, when stimulants are taken too soon, or the patient is exposed to cold.

Our author makes many acute and practical remarks on the diagnosis between acute rheumatism and gout, which deserve the serious attention of the young practitioner.

CHAP. III.—TREATMENT.

Very few diseases of such common occurrence have given rise to so much variety in the methodus medendi. Dr. M. thinks, and perhaps justly, that rheumatic inflammation has been too much separated, in treatment, from other phlegmasiæ.

"I presume, indeed, that most practitioners of the present day are in the it of abstracting blood in cases of acute rheumatism; but so far as my obser-

vation extends, the depletion is adopted on principles very different from those which are acknowledged with regard to other inflammatory diseases. I mean, that the blood-letting is either looked upon as only favouring the operation of certain remedies which are to follow, or at all events as a means which may moderate, but cannot be expected to extinguish the disease; to accomplish which requires certain routine prescriptions not usually adopted in other inflammatory affections." 29.

In short, our author thinks that the *acute* form "is amenable to the same laws as other inflammations." That acute rheumatism requires all the auxiliaries of the antiphlogistic treatment, as far as regards rigid abstinence, open bowels, diluents, &c. we readily grant; but that it is to be treated like common inflammation—say pneumonia—as far as regards venesection, we demur, though with the greatest deference to our author. Thus in acute rheumatism you may bleed to the last drop in the body, and the buff and cup will remain.—Not so in other inflammations. It is extremely difficult to bleed to syncope in rheumatic fever; but we have seen this state produced several times: almost always with metastasis to an internal organ. Will this occur in pneumonia? Although therefore, the general principles of treatment in the phlogoses at large are applicable to the one under consideration, we hold that general bleeding, though necessary and proper in the early stage of the disease, and in unbroken constitutions, has not proved so useful, in our hands, when we have acute rheumatism to deal with, as when we have common inflammation, as of the lungs, kidneys, brain, or pleura. It may be very true, what our author says, that there is nothing *specific* in rheumatic inflammation, except what depends on the specific seat of the disease. This is all we contend for; because this demands a modification of treatment. We surely would not confound inflammation of the skin, in erysipelas, with acute rheumatism, whose seat is deeper, and so on, as far as the methodus medendi is concerned.

In answer to some practitioners who condemn blood-letting as injurious in this disease, Dr. M. relates the case of a young man who came into St. George's Hospital with "great tumefaction and redness of the left hand and wrist of only thirty-six hours' duration." Dr. M. was advised by a gentleman (whose father cured acute rheumatism very rapidly by copious venesection) to bleed to thirty ounces, and no medicine to be given. "In this case the disease was literally extinguished." All we say to this case is—"valeat quantum."

"To come more to particulars, I should say, that in well marked cases of rheumatic fever, within the first week of their onset, and in individuals of the average degree of robustness, from twelve to twenty ounces of blood may be abstracted with advantage, several successive times, in the course of five or six days. In judging of the propriety of repeating the venesection, the three points chiefly requiring to be attended to are, the state of the blood, the character of the pulse, and the effect produced upon the rheumatic pains.

The blood, as every one knows, is generally very much buffed in rheumatism, but the presence of this appearance is not sufficient to warrant, *per se*, the repetition of the depletion. I think, however, the converse holds good, and that a loose coagulum, without the buff, is a sufficient reason in rheumatism for avoiding venesection, even although the attack may otherwise be acute.

The pulse sometimes, though very rarely, loses its peculiar bounding character

after the first abstraction of blood; and where this happens, I have not found further depletion of service.

As regards the pains, their cessation, or very great diminution, alone warrant us in declining to repeat the blood-letting; the general order of events being, that an abatement of suffering follows each recourse to the lancet. But whatever the aspect of the case might be, if no relief whatever resulted from bleeding practiced once, or at most two several times, (an event which I have scarcely ever witnessed, except where some of the circumstances above-mentioned were present, and thus gave early notice of the peculiarity,) I should then substitute other remedies, and avoid pushing the depletion further." 33.

To this we see no particular objection. Dr. M. justly attaches great importance to purging. We have had such multiplied experience of the efficacy of this remedy that, were we restricted to any *one* measure, we should infinitely prefer the cathartic draught to the lancet. Both, however, may be advantageously employed. The purgative recommended by our author is from three to five grains of calomel at night, and the black draught in the morning. This he repeats on several successive nights and mornings—indeed, the aperient is to be employed throughout the whole course of the disease. In comparatively mild cases, this treatment, Dr. M. observes, will be sufficient.

Next to bleeding and purging, Dr. M. considers opium as useful in acute rheumatism. Two grains, on an average, in the twenty-four hours, he thinks sufficient. Dr. M. was one time in the habit of giving calomel with the opium; but does not do so, unless there is suspicion of some rheumatic inflammation invading the internal organs, when "mercury must be immediately administered and persevered in until such symptoms are entirely subdued." Dr. M. makes some judicious observations on "other expedients," as sudorifics, &c. He considers the mist. guaiaci as a useful remedy, especially in broken down constitutions when bleeding could not be borne, and where the disease is subacute rather than acute. Colchicum, he thinks, is only useful in acute rheumatism, when it purges—and even then is not superior to many other purgatives. We are a good deal surprised at this observation; for in hundreds of cases—and personally ourselves—we have witnessed and felt the almost wonderful influence of colchicum in gout and acute rheumatism. We know, indeed, that it is always more beneficial when combined with aperients, and when it acts itself on the bowels; but still, if any medicine in the Pharmacopœia possesses a specific power—if ergot of rye acts on the uterus—colchicum exerts that specific influence on gout and rheumatism.

Dr. M. justly condemns cinchona; and how it could ever have been employed, puzzles us extremely. Even in convalescence we seldom dare prescribe it, as it often induces a relapse.

"I know no local remedies which afford any relief in acute rheumatism except the application of leeches. These however, ought not to be had recourse to unless under particular circumstances; indeed the only cases in which I would recommend them are those wherein the pain remains very severe, and fixed in one, or perhaps two joints, after general depletions have already been carried as far as is deemed advisable. The suffering of the patient is generally relieved very much by leeching under such circumstances; but it is only to be regarded as a palliative, and in the great majority of cases is not called for." 40.

We have rather a better opinion of leeches than Dr. M. but they are by no means essential to the cure.

Chap. IV.—Carditis and Pericarditis.

This is the most common complication of rheumatic fever. M. Bouillaud considers the *coincidence* of rheumatism and carditis as the rule, and the reverse the exception—and yet, in another place, he says that, in one half of the cases of acute rheumatism there was carditis! Dr. M. has too much good sense to adopt either of these opinions to their full extent; but still he evidently believes that not only a great proportion of acute rheumatic cases are attended with carditis, but that the idea of metastasis is quite illogical. The disease, he thinks, fastens on the heart, simultaneously with its invasion of the joints—or even before that sometimes.

"I have no hesitation, however, in expressing my conviction that the pericarditis supervening during rheumatic fever may more correctly be regarded as an extension of the disease, than as a true metastasis." 45.

Again—

"According to my experience, the heart affection is much more frequent in severe than mild cases of rheumatism. I do not mean to say that I have not seen pericarditis come on where the external rheumatism has been mild; but merely this—that such examples are rare, compared to those in which the converse holds good." 45.

Our own experience coincides with that of our author on this point. Dr. M. has not found pericarditis attend the other forms of acute rheumatism in anything like the proportion in which it does in this, the general or diffused kind. Dr. M. earnestly argues that blood-letting does not contribute to the occurrence of pericarditis, even when in large quantities and often repeated. We cannot say that his arguments have brought conviction to our minds—and certainly we are, of all people, the least prejudiced against venesection in general. Dr. M. does not allude to the subject of the warm bath in this form of the disease. It is a remedy too often employed, and, on numerous occasions, we have recorded our opinions in this Journal, that the measure in question was, of all others, the most conducive to an *extension* (for we dare not now say *metastasis*) of the disease from the joints to the central organ of the circulation.

Chap. V.—Symptoms of Pericarditis.

These may be divided into two classes—the local and the general. Among the former, *pain* is the most common, though it is sometimes absent, even in the worst cases. When present, it is sometimes like an acute stitch, increased by inspiration, as in pleurisy;—but more generally it is a dull, heavy, burning uneasiness—or intermediate between these. Occasionally it is distinctly aggravated by pressure on the intercostal spaces. In first attacks the pain is usually circumscribed; but after repeated invasions, and where structural change has commenced in the organ, the pain is diffused over the left side.

"The extent to which the heart's action is altered, as indicated by the presence of palpitation, or of any peculiar affection of the pulse, is much less than we should *a priori* have anticipated, or than it is often represented to be, in books. Limiting, for the present, the term palpitation to that tumultuous action of the heart which directs the patient's attention to it, and induces him to make it the subject of complaint, I am quite satisfied that it is frequently entirely absent; while, with respect to the pulse, it not only has nothing which can be regarded as pathognomonic, but I should even say that it has no character which is calculated to afford us any material assistance in the diagnosis. Generally, indeed, it is increased in frequency (beating from 100 to 120,) and at the onset is also, I think, usually more jerking than natural; but this latter character often very speedily subsides, and then, although generally retaining its augmented frequency, it may become weak, unequal, or intermitting—all which phenomena, it is well known, may attend other diseases of the chest, more especially those attended with effusion." 53.

But auscultation by a practised year is a very different thing. The abnormal sounds are chiefly two—rubbing or friction sound—and blowing or whizzing—the *former* appearing to result from the friction of the pericardium on the surface of the heart—the *latter*, on the impetus of blood through the valves. Effusion or accretion between the surfaces of the pericardium will put an end, of course, to the rubbing sound. Not so with the blowing sound.

"Where the blowing is heard with the first sound of the heart, and where it is perceived on placing the instrument over the carotid arteries, it is reasonable to conjecture that it depends upon disease having produced, in the aortic valves, certain changes which cause obstruction to the free exit of the blood from the ventricle. If the blowing be contemporaneous with the second sound, and not heard over the carotids, it probably will be found to depend on disease at the orifice between the left auricle and ventricle. Frequently a whizzing sound is heard with both actions of the heart, depending, in general, upon the aortic and mitral valves being both implicated in the disease. The degree to which the blowing sound is present varies much in different instances; but in well-marked rheumatism of the heart, it is rarely, if ever, wholly absent. Its general character, where the valves have not been previously damaged so as to admit of regurgitation, is that of a simple bellows sound; but sometimes it assumes a harsher character, and sometimes a distinctly musical tone. I have heard a clear musical whistle nearly from the onset of an attack of rheumatic carditis, diminishing in loudness as the disease was overcome, and passing into a simple bellows sound, which remained permanent. Indeed, there can be no doubt but that this anormal sound may entirely cease in recent attacks, the causes on which it depends being, it is to be presumed, wholly removed; but in older cases, and especially in those where the heart affection has not been early and vigorously met, the sounds alluded to are permanently present, affording every variety of intensity and tone, and too often resisting every method hitherto attempted for their removal—a circumstance obviously depending upon irremedial structural changes having been produced. And this leads me to remark, that it is of great importance, in cases of acute rheumatism, to ascertain, at the earliest possible period, the condition of the heart, that we may not confound the phenomena produced by the attack then present with those resulting from previous organic change." 57.

Sometimes, though not generally, the cardiac region is dull on percussion, to a considerable extent, and which, in the healthy condition of the organ, is limited to a couple of square inches, or less. When this dulness comes on during acute rheumatism of the heart, we may set it down to

the account of effusion into the pericardium—if, after repeated attacks, hypertrophy of the organ will be the probable cause of the dulness.

"Of the general symptoms which indicate that the heart has become implicated in an attack of acute rheumatism, the most striking is the aspect of the patient. I venture to say there is no observant practitioner who has not had occasion, on going into the wards of an hospital, to stop at once on coming to a rheumatic patient whom he may have seen the day before apparently doing well, and proceed to examine the heart with the conviction on his mind, before he has asked a single question, or applied his stethoscope, that carditis has supervened in the interval. This is one of the many instances in which the eye can detect what the pen cannot express. The system has taken the alarm at the new inroad of the malady; the consequent distress is depicted in the countenance, and told in every attitude and every movement. The expression is anxious; the breathing rather shallow; occasionally there is cough. The patient is sometimes very restless, but more generally lies on the back, or right side; at least it is rare to see him choose the left. Here we have intense fever, but for the most part without the restlessness and tossing that usually attend that state. Indeed there is occasionally a fixedness in the general aspect—I had almost said in the deportment of the patient—quite remarkable; he becomes, as it were, passive, and while the immobility with which he retains one position would lead us to suppose that any other would be intolerable to him, yet I have known such a patient, upon being moved, remain in his new position apparently as determinedly as he had previously done in the other. Although, therefore, reclining on the back, or a little to the right be the most common, and therefore, we must presume, generally the easiest posture, yet the unwillingness to move, even to resume this attitude, probably depends upon the effect produced by motion of any kind on the heart's action, which thus becomes for the time still further embarrassed. In the cases where this unwillingness to any change of posture is most marked, the action of the heart is usually feeble, and the sounds indistinct. Dr. Latham, who has excellently described this phenomenon, attributes it, and probably with justice, to the presence of fluid effusion in the pericardium. And here I may observe that where copious effusion takes place rather rapidly into the pericardium, unaccompanied by hydrothorax, the patient will sometimes prefer to lie perfectly flat on the back, without having the shoulders raised at all; being just the reverse of what we are almost invariably taught in books. Such, at least, has been the fact in several cases in which I had an opportunity of examining the bodies, and in others where the patients recovered, after having had symptoms which led me to believe that there had been fluid in the pericardium." 61.

A state of the encephalon sometimes supervenes on pericarditis resembling delirium—or wild insanity. It is generally a fatal symptom, and yet the traces of inflammation in the brain or membranes, is rarely discoverable after death. Dr. M. has, however, met with a few cases where recovery took place.

CHAP. VI.—This chapter is on the immediate effects of inflammation (rheumatic) on the pericardium and heart. When the treatment is energetic, rheumatic pericarditis is generally cured, in primary attacks; but otherwise the organ receives an injury which leads to future change of structure that is irremediable—too often fatal. Some, however, are cut off in the first attack, and the appearances on dissection are then unequivocal.

"The results to which the inflammation has ulteriorly given rise, are sometimes in description confounded with those which spring directly and immediately from

this cause. In a recent case the appearances are striking. On raising the sternum, lymph is sometimes perceived even in the anterior mediastinum. The bag of the pericardium is seen to be inflamed; and here, unlike what I had occasion to mention with respect to rheumatism of the joints, the effects are conspicuous, and the inflammation marked by a greatly increased number of vessels carrying red blood. The pericardium feels pulpy, or fluctuating; and frequently on cutting through it we do not at once expose the heart, but find a layer of lymph intervening, adherent partially or more extensively to both serous surfaces.

But the anormal appearances are generally not limited to the exterior. The valves, especially those on the left side, may be inflamed. Ulteriorly the change is manifested by their augmented size and thickness; but at a very early period, and supposing it to be a first attack, the only thing which may be visible is what might be described as a slight tumefaction at the ostea; looking from the left auricle towards the ventricle, the aperture seems narrowed: and I have seen the portion of the valve where its sides meet in closing, of a flesh-colour, presenting through a magnifying glass the appearance of minute spots, like granulations, with vessels carrying red blood entering them from the interior of the auricle. The aortic valves are sometimes of a pink hue to the naked eye, though there may be no separate red vessels to be detected even with a glass. Points like very minute granulations may somtimes be perceived, being apparently the earliest stage of those small bead-like projections which are frequently seen at a more advanced period. M. Chomel has also described the appearance of granulations, varying in size from a pin's head to a millet-seed, as occurring in a recent case both on the mitral and aortic valves; the former affording unequivocal evidence of being inflamed by having upon it a portion of adherent lymph. In the case to which I have above alluded, there was perhaps some narrowing of the aortic orifice, as if the parts around had been slightly tumefied; but this was not so conspicuous as in the auriculo-ventricular aperture. Red vessels could be traced from the surface of the auricle to its valve, but not so with respect to the ventricle. On the right side there was some opacity of the mitral valve, but nothing further. The pulmonary valves were healthy. This is the earliest condition in which I have had an opportunity of examining the endocarditis which accompanies rheumatism—that morbid change in the valves of the heart which ultimately leads to their permanent opacity and thickening, and to various important alterations, not only in the heart, but also as a secondary consequence in other parts of the body." 70.

In our post-mortem examinations, however, we are more frequently called on to witness ulterior than early consequences of rheumatic carditis. These are thickening and opacity of the pericardium, especially of that part which is reflected over the heart—adhesion of the two surfaces, general or partial—adhesion of the external pericardium to neighbouring parts, &c. But these changes, though important in themselves, are trifling, compared with the internal disorganizations. The valves, from their preeminently fibrous and tendinous structure, are the greatest sufferers in rheumatic carditis—especially the auriculo-ventricular valves—mitral and tricuspid.

"By much the most common kind of change is more or less of thickening, and this, more especially in the mitral valve, is sometimes accompanied by unequivocal evidence of previous inflammation of the adhesive character, its different portions being frequently more or less united together, or glued to the adjacent surface of the heart. When the auriculo-ventricular valves on either side are opaque and thickened, the participation of the lining membrane beyond them in such change is for the most part much more marked in the auricle than in the

ventricle; corresponding to what I have already stated with regard to the acute and earlier stage of the disease." 77.

It is very rare to find the muscular structure of the heart itself inflamed in rheumatic pericarditis or endocarditis—our author never having seen an unequivocal example of the kind. The parietes of the organ, however, undergo changes which may be considered mechanical in their causes—as hypertrophy, with or without dilatation of the chambers—or attenuation of the parietes with augmentation of capacity in the ventricles or auricles. These changes are generally attributed to the obstruction which the heart finds in distributing the blood to the aortic and respiratory system, and consequently to the greater efforts which it is called upon to make. We suspect, however, and so does Dr. M., that there are other causes, besides the mechanical, which operate in producing these morbid changes.

"The most conspicuous symptoms, supposing the nervous energy of the patient to be unimpaired, is to be found in the action of the heart. This is more turbulent than natural; the contraction of the ventricle occupies a perceptibly increased period, is accompanied by a kind of heaving, and there is frequently a greater than natural projection of the chest at each pulsation, which is very characteristic. If one end of the stethoscope be placed over the heart, and the fingers applied to the other extremity, the blow may not only be felt but seen, by the impetus communicated to the instrument. There is also a peculiar prolonged swell in the arterial pulsations. If there be great enlargement with thickening, then, in addition to the above sign, there is also dullness on percussion over a preternatural extent of surface, corresponding to the increased size of the viscus. If there be dilatation without hypertrophy, the dullness generally exists over an increased space, but without the augmented impulse; and these very simple diagnostic marks are sufficiently clear to afford the means of forming an opinion which will be correct in the great majority of cases. It is remarkable how frequently patients labouring under hypertrophy and dilatation, with the increased force and duration of the heart's action to which they give rise, are yet themselves unaware of anything unusual. I have repeatedly questioned such persons, and have often found that, unless under excitement, they felt nothing unusual about the heart; and I can venture to say, that, as a general rule, they do not complain nearly so much as those labouring under merely nervous palpitations without any organic change.

Another almost constant attendant of an old rheumatic heart is the blowing sound; and, as this generally bears a relation to the extent of valvular disease and to the force of the heart's action, it is reasonable to conclude that it depends upon the passage of the blood through the ostea of that viscus, whether in the proper course of the fluid, or by regurgitation.

In the great majority of cases, the phenomena presented are increased size and thickness of the valve; but notwithstanding its increased dimensions, it very generally does not close the auriculo-ventricular aperture, which, if the disease be of long standing, is yet more considerably augmented. It is to be kept in mind, however, that the blowing sound may also arise from causes apparently independent of any permanent disease.

This sound also varies much in its intensity and tone, passing by insensible gradations from a soft blowing to a harsh whizzing or rasping sound, and in some—not *very* rare instances—even striking a distinct musical note; perhaps more like cooing than any thing else with which it can be easily compared. This was the simile used by Dr. Elliotson, who, I believe, first observed and described the phenomenon, and I know no better mode of conveying a correct idea of it." 84.

CHAP. VII.—TREATMENT OF PERICARDITIS.

Dr. M. only adopts a modification of the treatment employed where the heart is not implicated. "The chief remedies in rheumatic inflammation of the heart will be found in bleeding and mercury." The venesection here requires more caution than when the joints only are affected. "For, while its necessity is augmented, the power of sustaining it has been diminished by the function of the part now implicated in the disease." Smaller and more frequent bleedings than in rheumatic fever are here recommended, in order to avoid syncope. Fourteen ounces are regarded as an average quantity, twice, or even thrice in the course of the first twenty-four hours. Local depletion is here of more value than in the articular forms of rheumatic inflammation.

"Lymph effused about a joint may render it stiff and troublesome, but when effused on the surfaces of the heart, it may be destructive of the function of the organ, and with this of the life of the individual. We must therefore direct our treatment more energetically, and for a longer period, against this effect of the inflammation. I allude to the use of mercury, which must be administered so as to bring the patient as speedily as possible under its influence, and the effect of the remedy must be kept up till we are satisfied that it has done all it is capable of effecting towards the removal of the lymph which had been poured out. Of the different preparations of mercury for this purpose, calomel is, I believe, beyond all comparison the best, and a scruple in twenty-four hours may be stated as forming the average quantity which adults under such circumstances require at the onset of the attack; the quantity being immediately diminished, but the remedy not abruptly discontinued, on the gums becoming tender. It is always to kept in mind, too, that the object is not to make the mouth sore, but that the soreness of the mouth is merely to be looked upon as evidence of another and more important object having been accomplished—namely, bringing the system under the influence of this most powerful agent." 87.

Purging freely, at the commencement of pericarditis, is necessary; but after effusion the laxatives must be moderate, in order not to check the mercurialization, "which then becomes paramount." Blisters to the region of the heart, when symptoms of effusion are showing themselves, become useful.

"The objects in view are to extinguish the inflammation at its onset if possible, before lymph has been poured out, for which purpose bleeding and purging are the best expedients; but if we fail in this, as in acute cases we generally shall, unless we have an opportunity of treating them at the very onset, then the mercurial action, vesication, and moderately open bowels, are the remedies to be employed." 89.

Quietude of body, and, if possible, of mind, after these attacks, is obviously useful, as morbid irritability of the organ remains for many months.

CHAP. VIII.—CAPSULAR RHEUMATISM.

If difference of seat, symptoms, termination, treatment, &c. be sufficient to prove a distinction, then synovial rheumatism ought, Dr. M. observes, to be dissociated from the form which we have been considering.

"The seat of capsular rheumatism is in the lining membrane of the joints and bursæ of the tendons; being, in this respect, the same as gout, to which it is, in various respects, very closely allied. The parts most liable to its attacks are the feet and hands, where it is, for the most part, easily recognised by the enlargement of the joints; but the peculiar characters of the disease are, perhaps, most strikingly displayed when it attacks the knee. At first there is pain and heat, which, in the more severe cases, are attended by external redness; and after a time, varying from about twenty-four hours to several days, tumefaction of the parts takes place. The appearance of the swelling, which is limited to the immediate vicinity of the joint, points out the nature of the affection. The effusion is within the synovial capsule, which is consequently distended, and projects at those points where it meets with least resistance. This gives a peculiarity to the shape which at once strikes the eye. In the knee, the fulness is most conspicuous on either side of the patella and across the lower part of the thigh, just above the joint; frequently also it projects backwards, and may be seen or felt between the hamstrings. Even where the inflammation extends to the surrounding textures, they participate much less in this than in the preceding form of the disease, and the swelling is consequently much less diffused. In the synovial rheumatism the swelling is fluctuating, and bound down by the ligaments of the joint; in the common acute rheumatism, the effusion is external to the capsular ligament—chiefly in the cellular membrane—and does not fluctuate. The shape and aspect of the two thus differ strikingly from each other, and only require to be seen in order to be afterwards recognised without the least difficulty, unless there be something very unusual in the case." 93.

The capsular rheumatism is much more persistent, and, though affecting several joints, at first, becomes fixed in a limited number, often leading to permanent change of structure in the part.

"In general, it is probable that the effusion into the joint consists merely of an increased quantity of synovia, produced by the excited condition of the secreting surface. Such, at least, was the case in an instance wherein I had an opportunity of examining the body of a patient cut off by another disease, while labouring under a first attack of synovial rheumatism. The joint chiefly affected was the knee; it contained an increased quantity of synovia, and the lining membrane, except where reflected over the cartilages, was of rather a deep red colour, and tumefied. But where the attacks have been repeated, or have expended themselves upon particular joints, much more considerable changes take place." 94.

Each repetition of attack is followed by less perfect recovery, and more distortion and disfiguration of the joint, with loss of motion, but not much pain.

Dr. M. dedicates some pages to prove that synovial rheumatism sometimes terminates in suppuration, and adduces cases as well as authorities in support of this position.

"The first indication of this form of rheumatism generally consists in a dull aching and stiffness of certain joints, particularly those which are most superficial. After a time the pain becomes of a more acute or burning character, and the parts begin to swell, the enlargement presenting a model of the synovial or bursal cavity, into which the effusion has taken place: the suffering is increased either by stretching the parts much, or by corrugating them, and hence a semiflexed position of the joint is the one usually assumed in severe cases. Motion aggravates the pain, particularly after rest of some continuance, as in the morning, at which time there is often a great deal of stiffness about the parts; but

in chronic cases this subsides after a little exercise, and the limb assumes more of its wonted suppleness.

In the most acute cases there is smart fever, and some redness about the joints; but much more usually there is no external discolouration, and little fever; at least the fever is inconsiderable as compared to that which attends the form of rheumatism first described. When fever is present to a considerable extent, it generally presents the remittent type, with copious perspirations; and I have seen a pulverulent deposit on the skin, which admitted of being scraped off, in quantity minute indeed, but sufficient to admit of being tested, and which was found to consist of the lithate of soda. Where the fever runs rather high the tongue becomes loaded and the bowels constipated; but there is much less disposition to these states than in common rheumatic fever. Indeed, of the secretions, the perspiration and urine are those most uniformly affected, the latter being charged with the lithates, and sometimes producing a sense of scalding as it is voided. In one case, which lately occurred to me, this was attended with slight discharge from the urethra, although I have the strongest reason to be assured that there was no gonorrhœal affection. The phenomenon would seem to bring still more close the connexion between the urethra and synovial membranes.

The course of this disease is altogether considerably different from that of rheumatic fever; it more speedily becomes mitigated in severity when both are treated in the ordinary manner, or when both are left to the unaided efforts of nature. But it is rarely if ever cut short at once, and the subacute, or chronic condition is much more enduring. In a first attack, from three to six weeks may be stated to be the average duration of the illness, and in such case little or perhaps no perceptible damage may have been done to the affected joints. But it is very apt to recur, and with each relapse its obstinacy seems to increase; in fact the inflammation acting repeatedly on textures already diseased, at length may be said never to be wholly absent, giving rise to permanent swelling and stiffness about the joints, constituting the 'nodosities' already described. Sometimes, after years of suffering, a truce is at length entered into, and the patient enjoys a long respite, without our art having any apparent share in the favourable change." 111.

The attack on the superficial joints is easily recognised; but in the deeper-seated, as the hip, there is more difficulty. In such cases, however, there is generally some external part implicated, which gives us a clue to the mystery. When a deep-seated bursa only is affected, we have only the exciting causes and the constitution of the patient to guide us.

CHAP. IX.—In this, the capsular form of rheumatism, pericarditis is very rare. In five cases of synovial rheumatism, wherein patients have died from transference of the inflammation from the joints to internal parts, no affection of the heart was found after death.

"Indeed, there can be no doubt that, on the great scale, there is a striking difference between the affections of internal organs in rheumatic fever, and in cases of capsular rheumatism, even in its acutest varieties. While the former implicates both the external and internal membranes of the heart by *extension*, and this in a very large number of cases, the latter (where it involves an internal part,) becomes transferred to the pleura, or to the membranes of the brain, by *metastasis*, and this in but a small proportion of instances. Nor are the immediate results of such internal inflammations less remarkable; for while very few, if properly treated, die during the first onset of rheumatism of the heart, the mortality holds a very high ratio where the synovial inflammation becomes transferred to the serous membranes either of the head or chest." 114.

It is in this form of rheumatism that our author has found the head to suffer much more than in the form previously described:—and this, not when the disease has been erratic, but where it has been fixed in one or more joints for some time.

"Sometimes the affection of the brain is manifested by pain in the head, which is at one time acute, at another dull—at one time persistent, and at another periodic, or at least paroxysmal, with almost complete remissions. Where there is pain in the head, however slight, attention is generally directed to the part; but occasionally there is no pain whatever, even although the disease has made considerable advances.

The following case may serve to illustrate the peculiarities of one form of this disease:—

A gentleman of literary habits, in the 37th year of his age, had suffered for above two months from pain, with swelling and fluctuation, of several joints, particularly the knees. The right knee was more especially complained of, and there was considerable effusion into the joint, evinced by a soft fluctuating projection on either side of the patella and across the lower part of the thigh, just above the knee. He took each night acetic extract of colchicum, in doses of gr. iij. and acetate of morphia, which last was increased gradually from $\frac{1}{4}$ to $\frac{1}{2}$ a grain; but without any effect in relieving the affected part. About the end of May, 1837, he complained of his memory being impaired, so that he had great difficulty in remembering words; but he was able to go out in an open carriage, and took a short airing, on Sunday, June 2d.

Next day I found him in bed, unable to answer questions otherwise than by the monosyllables 'Yes,' and 'No.' He expressed his mortification at this inability to speak, by gestures, and when asked if he had any pain or giddiness about the head, answered '*No*;' and shook his head in such manner as to show that he perfectly understood what was said to him. His pulse was 78, and soft; his tongue clean. No complaint was made of the knee, but on examining it I found the swelling almost entirely gone; indeed all fluctuation had disappeared, and there remained only some puffiness about the parts. He was freely purged, and a mustard poultice applied to the knee.

4th.—The same symptoms continued without perceptible change. Twelve leeches were applied to the temples, and the purging repeated.

5th.—In the early part of the day he seemed better; recollecting his sister's name, which he had previously forgotten. Late at night was seized with a fit of screaming, accompanied by strabismus affecting the right eye, and followed by frequent moaning.

Leeches to forehead, and gr. ij. of calomel every three hours. A blister to the back of the neck.

6th.—Strabismus gone, but mouth perceptibly, though slightly drawn to right side, with much subsultus tendinum, and frequent sighing. Answers questions which require only monosyllables distinctly; says '*No*,' when he is asked if he has pain in the head, and '*Yes*,' when asked if he has any giddiness. Pulse 80, with some sharpness.

Twelve leeches to temples; calomel, gr. iij. every three hours; strong mercurial ointment to be rubbed in very freely.

7th.—Very little change. Calomel omitted after the seventh dose, in consequence of purging. Mercurial frictions continued every two hours.

8th.—Much more sensible, and expression improved. Urine, which has been rather scanty, has become more abundant. Pulse 78. No mercurial fætor, but a perceptible red line on the gums.

9th.—Continues apparently to improve; gums decidedly injected, but there is no mercurial fætor. Takes beef-tea plentifully. Shows by his manner that he recognizes those about him, but cannot name even his most familiar friends.

Towards evening he began to sink. Frequent starting, and constant deep sighing; pulse became diminished in power, while it rose in frequency to 100. These symptoms continued till the evening of the 10th, when he expired.

Autopsy.—The convolutions of the brain were flatter than usual; the arachnoid was injected and there was a slight appearance of effusion. The ventricles contained from oz. iss. to oz. ij. of clear limpid serum, and each corpus striatum had the appearance of being smeared over with a thin layer like cream; but this could not be wiped off, and apparently depended on thickening and opacity of the lining membrane. The convolutions of the left fissura Sylvii were adherent, from inflammation of the interposed membrane, and the substance of the brain on either side of the fissure was of a yellowish colour, with patches like minute points of extravasation. The heart and other thoracic viscera were perfectly healthy. In the right knee, which had been the chief seat of the rheumatism, the membrane was thickened, rugose, and red all round, close up to the cartilages. The membrane had been pushed upwards, so as to increase the extent of the cavity, but no longer contained any preternatural quantity of synovia."* 119.

Our author has seen several analogous cases where slow and treacherous inflammation of the brain has crept on, without much alarm, to a fatal termination. A case occurred in St. George's Hospital, under Dr. Seymour, where a sudden collapse took place in joints that had been long distended, succeeded by pain in the head, hemiplegia, and death in the space of 36 hours. On dissection there was found considerable effusion into the ventricles, with a deposit of greenish-looking purulent matter over the surface of the left hemisphere.

"Another complication of this form of rheumatism is with pleurisy; and here, too, the internal inflammation depends upon a metastasis, the affection of the joints subsiding, or wholly ceasing, on the supervention of the thoracic disease. I have more than once witnessed this occurrence, and the phenomena were rather remarkable, having given rise to a copious sero-purulent effusion into the bag of the pleura. This form of metastasis is quite distinct from that which takes place to the pericardium in diffuse rheumatism. In this last the inflammation may, and frequently does, extend over the covering of the heart to the contiguous pleura: but in the cases of metastasis of synovial rheumatism to which I allude, the pericardium was free from any participation in the disease." 121.

In respect to rheumatic ophthalmia, our author has observed but few cases of it, though the term is very liberally employed by ophthalmic writers, with no inconsiderable vagueness.

CHAP. X.—This chapter is on the difference of treatment in diffuse and capsular rheumatism. The difference is very considerable in Dr. Macleod's estimation. General blood-letting, so useful in urgent cases of the *former*, is here "rarely if ever required, while local depletion is often of the most essential service." Leeches can always be applied in articular rheumatism, and the relief they afford is of the most marked description. Evaporating lotions tepid are very soothing in general, and, while soothing, ought to be continued. In some, anodyne fomentations are beneficial.

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* "This case was attended by Dr. Pereira, Dr. Clendinning, Dr. Hope, and myself."

"Internally, colchicum is the great remedy; and there are various modes in which it may be given. In the acute stage, the plan I have found to answer best is to give about a drachm of the vinum colchici in divided doses in the course of the twenty-four hours, combining the portion taken in the morning with a saline purgative draught, such as the common black dose. At the onset it is desirable to act pretty freely, but not violently, on the patient's bowels; and where the senna and salts prove too active, a drachm of the sulphate of magnesia, and thirty minims of the colchicum wine, may be given, in any light aromatic infusion. Where the bowels are very irritable, as sometimes happens in this form of the disease, a scruple of magnesia may be substituted for the Epsom salts. Another form which frequently answers extremely well, is to prescribe a drachm of colchicum wine and half a drachm of magnesia in a mixture, of which the third part is to be taken three times a day." 127.

With some trifling modification (some calomel, opium, and extr. colchicum at night) the above is the plan, when rendered a little more purgative, which we have used, for more than a quarter of a century, in the common or diffuse form of rheumatic inflammation. We believe we have been as successful as our neighbours, for there is hardly a complaint in Cullen's Nosology which we are less afraid of than rheumatic fever, when early encountered. Dr. M. has not found opium so useful in this as in the diffuse form. When colchicum acts, as it often does, as an anodyne, opium is unnecessary; if not, the opium is to be had recourse to.

In a great majority of cases, the above treatment will materially mitigate the severity of the symptoms; but this form of rheumatism is very prone to lapse into the chronic state, and then induce organic changes in the parts affected. In this stage Dr. M. recommends from one to three grains of the acet. extr. colchici at night, with a quarter of a grain of acetate of morphia, or five grains of Dover's powder. Moderate purging is necessary when anodynes are given. We quite agree with Dr. M. in the following sentiments:

"There can be no doubt that the colchicum is an agent of great power, and such as to require some caution in its administration; but it has always appeared to me that the presence of the disease in question has a counteracting influence, preventing the injurious consequences which might otherwise ensue; just as we see in many cases that the energies of the most powerful remedies are held under control by the state of the system—a familiar illustration of which is afforded by tetanus in respect to opium. However this may be, I have never seen any injury whatever done by colchicum in the doses above-mentioned, unless persevered in under the following circumstances—1st, the cessation of the pain; 2d, a depressed state of the nervous system; 3d, the occurrence of purging; 4th, the disappearance of the lithates from the urine. This last, I believe, was first pointed out by Dr. Graves, and is an indication which it is of importance to keep in mind.

The pain, according to my experience, is generally relieved by colchicum, independently of its purging; but the bowels must be excited to a moderate extent by other medicines, to prevent accumulation, or if they act from the colchicum with any violence, the remedy must forthwith be discontinued." 128.

Dr. M. is not a friend to the exhibition of calomel in this form of the disease, except in combination with purgatives, where the biliary secretion is vitiated.

When no farther improvement takes place from the colchicum, the iodide of potassium is often highly beneficial, especially where thickening has been

left about the joints. Two grains thrice a day, Dr. M. considers a sufficient dose of this powerful medicine. We never exceed this quantity, and often fall short of this dose. We every day see it prescribed in doses by far too large.

"When the disease has become entirely chronic, it is of great importance to attend to the general health, and light bitters, with a little potass or soda, are frequently of essential service; nay, in some cases of this kind, where the debility is considerable, even the decoction of cinchona may be given with great advantage.*

"Some assistance, but certainly not so much as could be desired, may be derived from local applications in the chronic form of the disease; one which I would particularly recommend is, pouring tepid or hot water upon the part. This combines fomentation with a certain degree of friction, and the temperature of the water, as well as the height from which it is allowed to fall, must be regulated by the feelings of the patient. Liniments and embrocations are generally useless, and if incautiously used are frequently injurious. When the thickening is quite in a chronic state, the ointment of hydriodate of potass very gently rubbed upon the parts, or painting them with tincture of iodine by means of a hair pencil, so as to produce desquamation, is sometimes of service." 131.

Affections of the brain consequent on articular rheumatism can only be treated on general principles, and as affections arising from other causes. The most imminent danger is that of effusion, and the other results of inflammation in general. Depletion and mercurial action are the best preservatives against consequences.

CHAP. XI.—MUSCULAR RHEUMATISM.

This is a chronic affection, and different, in our author's estimation, from the sequelæ of acute rheumatism. Its most common seat is the muscles moving some of the large joints, as the hip or shoulder. The loins, too, are often affected, and sometimes the muscles of the neck.

"This form of the disease consists, in the milder cases, of a dull uneasiness in the part while at rest, which, however, becomes converted into an acute cutting pain when it is moved. Sometimes, indeed frequently, there is no discomfort except on calling certain muscles into action, and if this, from forgetfulness or other cause, be done abruptly, the suffering is often so acute as to make the patient cry out involuntarily.

"Lumbago is a very characteristic form of muscular rheumatism. It occupies the loins, and is often aggravated to torture by any unguarded movement implicating the muscles of the part; but if the patient remain perfectly quiet, he is comparatively free from suffering. When very severe, he may be obliged to remain in bed, and very often is confined to the sofa. Even when he is able to walk about, he often does so in a semibent position, being unable to raise his body into a completely erect posture for some time after he has risen; nay, in some cases he cannot straighten himself at all.

"Pain of exactly the same character not unfrequently attacks the muscles of one side of the neck, and the head is generally held awry to relieve the suffering

* "I think that in the case above supposed, and in almost all others where debility is the urgent symptom, that the cinchona is to be preferred to quina."

part. Either of these may be brought on by sitting in a draught, or otherwise exposing the parts to cold, especially if combined with moisture.

Another very frequent seat of muscular rheumatism is the intercostal space, where it is difficult to say whether the muscular or fibrous tissues are involved; and indeed the pain on inspiration is often as acute as the stitch of pleurisy. From this, however, it is easily distinguished by the absence of pain, and the complete relief afforded by fixing the ribs, and breathing with the abdominal muscles.

I have also more than once seen the same kind of affection in the abdominal muscles, the pain being completely controlled by putting a roller tightly round the body, or otherwise preventing the muscles from acting." 135.

In this, as indeed in all forms of rheumatism, the pain is much greater in the night than in the day. The obstinacy of chronic muscular rheumatism is proverbial, and is much aggravated by atmospherical vicissitudes. It often occasions, when long continued, a wasting of the limb.

"Purgatives are very frequently of great service in the different forms of muscular rheumatism, more particularly in lumbago, and as a general rule ought to precede the use of other remedies. The best plan where there is nothing to contra-indicate its adoption, is to give from three to four grains of calomel at night, followed by a black dose next morning, and to repeat this once or twice during the first week; after which it is sufficient to regulate the action of the bowels, and to give rather a brisk purgative about once a week.

But in the kind of rheumatism to which I now refer, where it has not been preceded by the acute stage, and where the muscles are chiefly affected, remedies of the warm or stimulating kind are decidedly most useful. Among these, none has appeared to me to be so frequently efficacious as the ammoniated tincture of Guaiacum. Half a drachm is a sufficient dose with which to begin; but most persons bear—and indeed require—a drachm, three times a day, and with some it is necessary to increase the dose to two drachms or more. The most common sensible effect is that of purging the bowels, and where this is the case to any great extent the dose must be either diminished or discontinued. In most patients, however, it may be so managed as to regulate the alvine evacuations; and the tendency to diarrhœa may be prevented without inconvenience, by means of opium, which, in doses of about a grain each night, may assist materially in the curative process. There are two other forms in which this remedy has been frequently used in rheumatism, namely, the mistura guaiaci, and the compound familiarly called the 'Chelsea pensioner.' The first I think less efficient in this form of the disease than the ammoniated tincture; the latter (composed of guaiac, rhubarb, cream of tartar, sulphur, and nutmeg,) may be substituted with advantage for the tincture in those cases which prove very obstinate and lingering. The general effects which the remedy produces in any form which agrees with the patient, and which is likely to prove serviceable, are an agreeable sense of warmth in the stomach, followed by moderate perspiration, or, where the surface is kept cool, by increased action of the kidneys. In full doses it sometimes produces an eruption on the skin like urticaria; but I have never seen any serious inconvenience result from this." 139.

We shall not allude to the numerous external agents, as oils, balsams, mustard, horse-raddish, turpentine, &c., not forgetting the cod-liver and Cajeput oils. We were glad to see Dr. M. as if by an after-thought, glance at the warm bath in acute and sub-acute rheumatism.

"In the acute forms of rheumatism, which we have previously considered, probably no one would think of having recourse to the warm bath, in their early stage, nor has any benefit resulted from this remedy in any of the cases of the sub-acute form in which I have seen it used." 140.

We can assure Dr. M. that scarcely a day passes in which we do not see the effects or learn the history of warm-baths in rheumatic fever. Had it not been for this, we should not, for so many years past, have been in the habit of warning our junior brethren against this injurious practice.

The local application of vapour and the douche is very beneficial in chronic rheumatism, especially where there are nodosities and other sequelæ of the different forms of the disease. Acupuncture and electricity are not held in much repute by Dr. M.

CHAP. XII.—WHAT IS NEURALGIC RHEUMATISM.

"I would apply the term neuralgic rheumatism to certain painful affections following the course of various nerves, and brought on by exposure to cold. The identity of these, however, with genuine rheumatism is more doubtful than with regard to any of the cases previously described. But I have so frequently seen this form follow the same causes, yield to the same remedies, and alternate with attacks more particularly of the arthritic rheumatism, that I cannot but regard them as of the same family." 142.

In this sentiment we entirely agree with our author. Sciatica is a familiar example, and the facial neuralgia, commonly called TIC, often alternates with sciatica and neuralgia of other parts. When common means fail, which they too often do, Dr. M. has had recourse to stramonium, veratria, aconite, and other heroics, with partial success. From the tincture of aconite (five minims thrice a day) he has seen more benefit in rebellious cases than from other poisons. Belladonna externally is by no means to be despised as an auxiliary.

CHAP. XIII.—PERIOSTEAL RHEUMATISM.

Dr. M. justly observes that, in almost all cases of nodes, practitioners are too apt to set down the cause as syphilitic or mercurial. He has seen "numerous instances" where neither the one nor the other cause could be suspected.

"The treatment of this form of rheumatism is generally by no means difficult, though sometimes tedious. The acute cases, indeed, yield speedily enough when actively dealt with; but in the chronic form it is otherwise. In the former, leeches applied locally, with calomel and opium given internally, and followed by rather brisk purging, are sufficient under all ordinary circumstances to arrest the disease.

"When, however, the case has passed into the chronic state, the iodide of potassium, in doses of from two to four grains, twice or three times a day, very seldom fails to give speedy relief, and is generally sufficient to bring the case to a favourable termination without the assistance of any other remedy. Where it falls short of this, the cure may often be completed by sarsaparilla, and sometimes the two remedies in question require to be alternated. Very often the iodide removes the swelling and pain in the course of a few days; but where it does not, then this latter symptom must be controlled by means of opium. Purging is not necessary in the chronic form of the disease, but the bowels, if disposed to constipation, require the assistance of gentle laxatives.

Blisters over the thickened periosteum are frequently of considerable service;

and in obstinate cases farther relief is sometimes obtained by painting the parts with tincture of iodine, in the manner already described.

In this form of the disease, accompanied as it so often is with a cachectic state of the general system, the warm bath is occasionally of considerable service, and is generally very grateful to the patient." 150.

The work terminates by tables and references drawn from 387 cases of fibrous, capsular, and muscular rheumatism; and from 52 cases of rheumatic pericarditis. These tables are curious and useful, and are well worthy of attention. We have analyzed the work before us so carefully and largely, that we have enabled our readers to appreciate well the value of the publication. The pains, indeed, which we have taken to diffuse its important contents throughout the profession, on both sides of the Atlantic, are the best proofs of the kind of estimation in which we hold this small, but highly useful and practical treatise.

OBSERVATIONS ON THE RELIGIOUS DELUSIONS OF INSANE PERSONS; AND ON THE PRACTICABILITY, SAFETY, AND EXPEDIENCY OF IMPARTING TO THEM CHRISTIAN INSTRUCTION, &c. &c. &c. By *Nathaniel Bingham*, M. R. C. Surgeons, &c. Octavo, pp. 213. Hatchard, Piccadilly, 1840.

IT is not our intention to analyse this work, which we did not see till very recently, though published nearly two years ago. It is more popular than professional, though written with good sense and a fair amount of information on the ticklish subject of insanity. To the "*religious* delusions of the insane" we attach no more importance than to any of their other delusions; nor are we at all convinced by Mr. Bingham that, *while under* these delusions, religion will tend in any way to remove the malady. The homœopathists indeed will chuckle at the idea, for it tallies exactly with their doctrine—"similia similibus curantur." If religion, or rather superstitious fanaticism in allopathic doses, causes insanity, why should not the same in homœopathic doses. cure the disease? But these knotty points we leave to those who have the management of the insane, who can best test the efficacy or prejudice of the system of religious instruction. Dr. Millingen, who lately had the superintendence of the Middlesex Lunatic Asylum, does not give a very favourable opinion of the system under consideration.

"Nothing," says he, "can be more absurd than the assertion of the great benefit that arises from the patients being obliged to attend divine worship. The apparent tranquillity and attention with which they seem to listen to the chaplain's exhortations, are purely mechanical. A lunatic seemed much affected at a sermon, and even shed tears with seeming contrition; the subject of the discourse was the Trinity. When questioned on the homily which had thus affected him, he said it was one of the most beautiful sermons he had ever heard—all about the Emperor of Russia and the King of Prussia! Were it not for the moral discipline enforced in these asylums, and the presence of the keepers, their congre-

gations would very frequently exhibit anything but a devotional appearance. During fourteen months' superintendence of Hanwell, out of upwards of one thousand patients, I had only four who were fit to receive religious consolation in sickness, and on the bed of death." 4.

Dr. Brown appears to be of the same opinion.

"In the employment of such an agent (religion) great difficulties occur—so great, indeed, as to discourage tho most zealous of its advocates. These consist in determining the modes in which the effect may be best obtained. If its doctrines are taught to weak or perverted intellects, they may add to the confusion already existing; if its influences are brought prominently forward, they are apt to mingle with superstitious fears and delusions; if its duties alone are commented on, the doubting and ignorant may be left unsatisfied; if preaching is the vehicle, the attention may be fatigued and exhausted; if, prayer, the sentiments may be strongly affected. These suppositions are all obviously founded upon the injudicious use of such an agent." 4.

We are aware, however, that it is just as useless to urge these objections to the enthusiasts in religion, as to talk of the danger of cultivating farms and extinguishing slavery on the deadly banks of the Niger, to Fowell Buxton, or the weeping widows and melting maidens of Exeter Hall.

We shall only glance at another modern mania—the entire abolition of all personal restraint in cases even of the most violent insanity. Like the Niger question, a storm of abuse, and of popular indignation is let loose on all those who even entertain a doubt on the subject of this new species of emancipation. It is in vain that we repudiate personal restraint, except where the lives of the sane and the insane are put in jeopardy by the loss of reason and the fury of animal passion. No restraint is ever to be employed! Yet the sentiments of some men, immortalized by the justness of their observations, the soundness of their views, and the humanity of their dispositions, might weigh in the scale against this modern morbid sensibility to the horrors of a muff or a strait-waistcoat. The amiable and experienced Pinel relates the following interesting case.

"A gentleman, the father of a respectable family, lost his property by the revolution, and with it all his resources. His calamities soon reduced him to a state of insanity. He was treated by the usual routine of baths, blood-letting, and coercion. The symptoms, far from yielding to this treatment, gained ground, and he was sent to Bicêtre as an incurable maniac. The governor, without attending to the unfavourable report which was given of him upon his admission, left him a little to himself, in order to make the requisite observations upon the nature of his hallucination. Never did a maniac give greater scope to his extravagance. His pride was incompressible, and his pomposity most laughably ridiculous. To strut about in the character of the prophet Mahomet, whom he believed himself to be, was his great delight. He attacked and struck at everybody that he met with in his walks, and commanded their instant prostration and homage. He spent the best part of the day in pronouncing sentences of prescription and death upon different persons, especially the servants and keepers who waited upon him. He even despised the authority of the governor. One day his wife, bathed in tears, came to see him. He was violently enraged against her, and would probably have murdered her, had timely assistance not gone to her relief. What could mildness and remonstrance do for a maniac, who regarded other men as particles of dust? He was desired to be peaceable and

quiet. Upon his disobedience, he was ordered to be put into the strait-waistcoat, and to be confined in his cell for an hour, in order to make him feel his dependence. Soon after his detention, the governor paid him a visit, spoke to him in a friendly tone, mildly reproved him for his disobedience, and expressed his regret that he had been compelled to treat him with any degree of severity. His maniacal violence returned again the next day. The same means of coercion were repeated. He promised to conduct himself more peaceably; but he relapsed again a third time. He was then confined for a whole day together. On the day following he was remarkably calm and moderate. But another explosion of his proud and turbulent disposition made the governor feel the necessity of impressing this maniac with a deep and durable conviction of his dependence. For that purpose he ordered him to immediate confinement, which he declared should likewise be perpetual, pronounced this ultimate determination with great emphasis, and solemnly assured him, that, for the future, he would be inexorable. Two days after, as the governor was going his round, our prisoner very submissively petitioned for his release. His repeated and earnest solicitations were treated with levity and derision. But, in consequence of a concerted plan between the governor and his lady, he again obtained his liberty on the third day after his confinement. It was granted him on his expressly engaging to the governess, who was the ostensible means of his enlargement, to restrain his passions, and by that means to screen her from the displeasure of her husband for an act of unseasonable kindness. After this, our lunatic was calm for several days, and in his moments of excitement, when he could with difficulty suppress his maniacal propensities, a single look from the governess was sufficient to bring him to his recollection. When thus informed of impropriety in his language or conduct, he hastened to his own apartment to reinforce his resolution, lest he might draw upon his benefactress the displeasure of the governor, and incur for himself the punishment from which he had but just escaped. These internal struggles between the influence of his maniacal propensities and the dread of perpetual confinement, habituated him to subdue his passions, and to regulate his conduct by foresight and reflection. He was not insensible to the obligations which he owed to the worthy managers of the institution, and he was soon disposed to treat the governor, whose authority he had so lately derided, with profound esteem and attachment. His insane propensities and recollections gradually, and at length entirely, disappeared. In six months he was completely restored. This very respectable gentleman is now indefatigably engaged in the recovery of his injured fortune." 79.

We shall only add the following sentiments of Mr. Bingham himself, whom we know to be one of the most tender-hearted and humane mortals existing in this world.

"There exists in the public mind, at this time, a strong feeling against all kinds of personal restraint in lunatic establishments, and some practitioners have proposed to banish it entirely from them. I have no doubt it is *practicable* to do so by multiplying keepers and nurses, to supply by manual coercion and watching the place of those simple contrivances which are now in use, and by providing rooms, the sides and floors of which are so padded, that the most unruly patient could not injure himself by falling against them. But whether any benefit would accrue to the patient by such a change of system, is a point that must not be lost sight of. I am acquainted with the result, in the hands of some who have tried it, and it is by no means encouraging. The patients suffer *much more*, I am informed, by resisting the combined attempts of several persons to coerce them, than they would by the preventive efficacy of well-contrived muffs, sleeves, and other means for keeping them out of mischief." 81.

We are entirely of Mr. B.'s opinion on this point; but granting, for the

sake of argument, that in some public asyla, as Hanwell for instance, such a system of entire non-restraint could be put into execution by legions of keepers and other auxiliaries, how could it be effected in private houses, consistent with any reasonable degree of economy? Then the numerous cases of headlong propensity to suicide, to masturbation, and twenty other practices subversive of health and even life—how are they to be attended to? But, as we said before, it is of no use to argue with enthusiasts. The only feasible plan that we can conceive, is, to have a mesmeric professor —an animal magnetiser in each asylum, whose business it may be to throw all turbulent spirits into profound sleep every evening, and awake them with his fugle-motions or *reveillez* at sunrise.

RESEARCHES TENDING TO PROVE THE NON-VASCULARITY AND THE PECULIAR UNIFORM MODE OF ORGANIZATION AND NUTRITION OF CERTAIN ANIMAL TISSUES, viz. ARTICULAR CARTILAGE, AND THE CARTILAGE OF THE DIFFERENT CLASSES OF FIBRO-CARTILAGE; THE CORNEA, THE CRYSTALLINE LENS, AND THE VITREOUS HUMOUR; AND THE EPIDERMOID APPENDAGES. By *Joseph Toynbee*, Esq., Member of the Royal College of Surgeons in London, and late Assistant to the Conservators of the Museum of that Institution. (From the Phil. Trans. Part II. for 1841.) London, J. & E. Taylor, 1841.

THOSE who enjoy the pleasure of Mr. Toynbee's acquaintance are aware of his zeal and indefatigable assiduity in the prosecution of anatomical researches. He has brought to bear on them the practical experience derived from his studentship at the College of Surgeons, where he worked under the direction, and, we may reasonably suppose, imbibed the spirit, of the accomplished Conservators of the Hunterian Museum. From Mr. Toynbee, therefore, his friends expected much, and they will not, we think, be disappointed.

The title-page of the paper before us explains its author's object. We may therefore pass at once to its analysis.

Mr. Toynbee starts with the observation that it is now generally acknowledged that the process of nutrition in most animal tissues consists in changes undergone by the nutrient liquor sanguinis, which has exuded into them through the coats of the capillaries ramifying throughout them. The vessels themselves vary in number in different structures: in muscle, the capillaries are very numerous, and the spaces between them very small; whilst in tendon and ligament, on the other hand, the latter are comparatively large; but in all structures, whatever may be the degree of their vascularity, the tissue the furthest removed from the vessel is nourished equally well with that which is in immediate contact with it.

In all vascular structures, therefore, there is of necessity a considerable extent of tissue which is nourished without being in contact with blood-

vessels, and the knowledge of this fact forms a necessary introduction to the study of the process of nutrition in those organs, into which, whilst in a healthy state, anatomists have never succeeded in tracing blood-vessels. The organized tissues, constituting such non-vascular organs, may be divided into three classes:

The first, comprehending articular cartilage, and the cartilage of the different classes of fibro-cartilage;

The second, the cornea, the crystalline lens, and the vitreous humour;

The third, the epidermoid appendages, viz. the epithelium, the epidermis, nails and claws, hoofs, hair and bristles, feathers, horn, and teeth.

Mr. Toynbee's endeavour is to prove that no vessel ever enters these tissues when they are perfectly developed, and in a healthy state, and to demonstrate the manner in which they are nourished.

Mr. Toynbee adopts the following line of argument.

In the first place, no anatomist has ever been able to trace vessels into these tissues in the adult healthy state; Secondly, he thinks that the due action of the organs into the composition of which these tissues enter is incompatible with vascularity; in other words, that the presence of blood-vessels within them is a sign of disease.

The first class, for instance, of the non-vascular tissues, comprising cartilage and fibro-cartilage, is subject, from its situation in the joints, &c., to repeated concussions, and to constant compression and attrition, which in these unyielding tissues would necessarily be destructive of the integrity of blood-vessels.

Those of the second class are required to be perfectly transparent for the due transmission of the rays of light, which would be impossible if the circulation of a coloured fluid were carried on throughout their substance.

The tissues of the third class are unceasingly exposed to friction, laceration and incision; and hence, of course, it is necessary that they should not be traversed by vessels.

Mr. Toynbee's injections have proved to him that the vessels which previous anatomists had traced no further than their circumference (supposing them to be continued into these tissues, either as serous vessels, or as red blood-vessels too minute for injection,) actually terminate in veins, without the limits of these tissues. The terminations of these vessels in the immediate vicinity of the non-vascular tissues, present certain convolutions, dilatations, plexuses and other peculiarities, which differ in various parts, but in all instances enable a large quantity of blood to circulate slowly in the neighbourhood of these tissues, from which it may be inferred that they are subservient to the nutrition of the latter; and their existence certainly constitutes another argument against the presence of vessels within them.

All these non-vascular tissues contain corpuscles or cells, of which some of them are almost entirely made up; while in others, as the cornea, a few only are present.

Mr. Toynbee refers to the researches of Schwann, &c., on the cells of animal tissues. These cells are modifications of two principal forms, the one being either round or oval, the other compressed in the form of a scale; and their existence in one of these two forms has lately been detected in most organs of the body.

In a circular form they appear to be the principal components of bone, cartilage, muscular and nervous fibre, and of the parenchyma of glands; in the form of a flattened cell or scale, they constitute the epidermis and its appendages, the epithelium of mucous and serous membranes, and of the inner tunic of the vascular system.

Mr. Toynbee agrees with M. Schwann that these cells have vital actions, and, he thinks, not only during development, but afterwards. He ascribes to them the function of circulating, and of perhaps changing the nature of the nutrient fluid which is brought to the circumference of the solid non-vascular tissues, and he believes them in some measure to compensate for the absence of the internal vascularity possessed by other structures. The only difference, in fact, which appears to him to exist between the mode of nutrition in the vascular and the non-vascular animal tissues is, that *the former* derive their nutrient fluid from the blood which circulates through the capillaries contained in their substance; and that *the latter* are penetrated by the nutrient fluid which exudes from the large vessels by which they are surrounded, and that its distribution through them is assisted by the vital properties of the corpuscles which they contain; in *both classes*, the particles of which the tissues are composed attract from this fluid the elements which nourish them.

FIRST CLASS OF NON-VASCULAR ANIMAL TISSUES.

Of Articular Cartilage and Fibro-Cartilage.

These tissues, says Mr. Toynbee, are analogous to each other in their situation, structure, mode of nutrition and functions. Each of them forms a part of joints, and is subject, in the performance of its functions, to concussion and compression, and is composed of corpuscles or cells possessing similar characters. Although they are properly considered as non-vascular tissues, they appear to be pervaded by blood-vessels at an early period of their development, or perhaps it would be more correct to say, that as growth proceeds, the cartilage increases, so as to occupy the space which had previously been permeated by vessels. Mr. Toynbee thinks he has been able to demonstrate that vessels are never found within these cartilages when fully developed, but at that period vessels form convolutions in their immediate vicinity. These vessels are separated from articular cartilage at adult age by a layer of bone, and in fibro-cartilage, at the same period, they uniformly terminate within the boundary of its fibrous tissue. Over a certain portion of the free surface of both of these tissues blood-vessels extend, but they do not penetrate into their substance.

He thinks that his investigations lead to the certain conclusion, that articular cartilage in the adult state is principally nourished by fluid derived from the vessels of the cancelli of the bone to which it is attached, which exudes through the coats of those vessels, and makes its way into the substance of the cartilage through the intermediate lamella of bone. The cartilage of fibro-cartilage is nourished in like manner by liquor sanguinis, derived from vessels situated in the contiguous fibrous portion. The vessels ramifying in a certain extent of the free synovial surface of

both these species of cartilage contribute doubtless to their nutrition, but not to near the same extent as do the vessels of the opposite side.

1. *Articular Cartilage.*

Mr. Toynbee observes that there is this difference in articular cartilage, with regard to its nutrition during and after its development; that in the former state there is no positive separation of it from the cartilage which is subsequently converted into bone, and in which its nourishing vessels are contained; while, in the latter state, these vessels are separated from it by an osseous lamella. The free surface of articular cartilage during, as well as after, its development, is covered by synovial membrane, to which it is attached by cellular tissue. So, it will be observed that Mr. Toynbee affirms what some have, we think, hypercritically denied—the continuity of synovial membrane over articular cartilage.

With respect to vascularity, the nutrition of articular cartilage during its development may be divided into two stages; viz. the early one, during which no vessels enter any of the structures of the joints; and the subsequent one, in which the cartilage of the bone on the one surface, and the synovial membrane on another, are supplied with blood-vessels. In adult age, after development is completed, the same vessels continue the process of nutrition; those of the bone being situated in the cancelli, as before described, whilst those of the synovial membrane are considerably diminished in size.

First Stage of Development of Articular Cartilage.—Mr. Toynbee has made some dissections of the fœtal calf with the view of illustrating this. The dissections themselves we cannot give, but must content ourselves with stating what Mr. Toynbee deems fair inferences from them.

First. That, during the most early periods of fœtal life, the growth of cartilage takes place, and that its component cells or corpuscles undergo certain progressive changes in their form and size, without the presence in its substance of any blood-vessels.

Secondly. That the vessels encircling the cartilage contribute to effect such changes in its corpuscles, and that the changes are facilitated by the softness of the substance of the cartilage.

Thirdly. That, at the more early period of fœtal development, the synovial surface of cartilage does not contain blood-vessels.

Second Stage of Development of Articular Cartilage.—As the cartilage forming the articular extremities of bones becomes harder during the process of development, vessels are gradually introduced upon its surface and into its substance. Mr. Toynbee treats of the latter first.

Of the Blood-vessels in the Substance of the Epiphysal Cartilage.—Mr. Toynbee observes that "the whole inferior extremity of the os-femoris of a fœtus of about five months presents, except at its articular surface, numerous depressions of various depths. The deepest may be regarded as canals, some of which are single, others bifid; they terminate in blind sacs. The direction of some of these canals is towards the centre of the epiphysis, of others towards its point of attachment to the osseous shaft,

and of others, those about to be described, towards the articular cartilage. Some of these canals are of a large size, and are frequently considerably dilated at their blind extremities. They do not penetrate into the substance of the articular cartilage. These canals are for the reception of branches of sanguiferous vessels. When the epiphysis is minutely injected, the depressions upon its surface will be found to contain congeries of convoluted blood-vessels, which are more drawn out the deeper the depression, until at length, in the interior of the canals and their divisions, single, and nearly straight vessels are found. These epiphysal vessels have a very peculiar disposition. They consist of an artery having a course more or less straight, which terminates in a dilatation, or in convoluted branches, from which the vein arises. From the fact of the presence of these vessels, which converge towards and form convolutions internal to the articular cartilage, it may be inferred that they supply the cells of the latter with a nutrient fluid. As the articular cartilage increases in thickness, and the ossific nucleus which is developed in the epiphysal cartilage becomes larger, these vessels gradually recede from between them, and they leave a considerable mass of non-vascular cartilage between the osseous nucleus and the synovial membrane; all of this appears to be articular cartilage, which is now nourished by the vessels in the interior of the nucleus. The supply of blood-vessels in the cancelli of the osseous nucleus, is remarkably abundant; they are large and are separated from the surrounding cartilage by an extremely delicate lamina of bone, which is principally made up of osseous cells. I am induced to believe that at this stage of development, as in adult age, the fluid passes from the bone into the cartilage and nourishes it."

Of the Nutrient Vessels of Articular Cartilage during its Development, which are situated betwixt it and its Synovial Membrane.—Mr. Toynbee commences by stating his belief in the extension of synovial membrane over the free surface of articular cartilage.

The arteries, he says, passing between the synovial membrane and the articular cartilage may be considered as the terminal branches of the articular vessels.

Before they reach the articular cartilage they are but laxly covered by the synovial membrane, but at the border of the cartilage they are firmly bound down to it by the very small quantity of dense cellular tissue existing between them. It is difficult to state generally at what period of fœtal existence the vessels, which have been spoken of in the first stage as forming convolutions around the joints, are prolonged upon its surface. Mr. Toynbee offers a detailed account of the prolongation of these vessels on the head of the os-femoris from the point of insertion of the ligamentum teres, but we have not room for it.

Various Characters of the Synovial Vessels.—These vessels, remarks Mr. T., consist of arteries which take a direction towards the centre of the articular cartilage, and of veins which take a retrograde course. The arteries become continuous with the veins in the following ways; 1st, the artery becomes directly continuous with the vein, without undergoing any change in its size, forming with the latter a simple loop; 2ndly, nu-

merous arteries terminate in a single vessel from which veins arise; 3dly, the artery terminates in largely dilated vessels, from which the veins take their origin.

Mr. Toynbee adds:—the preceding account of the examination of the vessels of articulations at early periods, shews that a large quantity of blood-vessels exists both at the free and attached surface of articular cartilage during its development. The modes in which these vessels are disposed, the dilated, plexiform, and other characters which they present at the point of communication of the arterial with the venous system, are interesting features in the anatomy of the vascular system, and their presence here must be associated with the large quantity of fluid required for the nutrition of the articular cartilage during development, and which is eliminated from the blood whilst its course is retarded in these vessels.

Adult Articular Cartilage.

Mr. Toynbee has previously remarked that, at the attached surface of adult articular cartilage, viz. at the part where it joins the osseous lamella, it presents numerous fine canals, which can be seen only with the higher magnifying powers. These canals are irregular in their distribution; some are merely dilated cavities; frequently several of these cavities are elongated, and arranged serially, running from the attached towards the free surface of the cartilage. At the free or synovial surface, these canals do not exist; the cells of the texture at this part being elongated and flattened, and having their long diameters parallel to the free surface. These canals contain a transparent fluid, which is seen to ooze from them after a section.

It is most probable that the uninjected vessels observed in sections of cartilage by Meckel, Bichat, and others, were these canals and sinuses.

Into the substance of healthy articular cartilages Mr. T. has never been able to trace blood-vessels, and he believes that they do not possess any. Mr. Toynbee quotes the contradictory opinions of the most eminent anatomists and physiologists upon the subject. He then continues:—

In adult life, when the epiphysal cartilage has been ossified, the cancelli of the latter are separated from the articular cartilage by a layer of bone, to which may be given the name of the articular lamella. The nature of this lamella is worthy of particular attention. It is composed of two sets of osseous layers; the one, dense and thick, is continuous with the vertical fibres of the cancelli; the other, delicate and thin, principally composed of osseous corpuscles, is situated at right angles to the latter, and fills up the interspaces of the vertical fibres. Mr. Toynbee asks if this lamella is complete, and replies that he never could discover its orifices, nor force mercury through it.

"If the lamella be rendered transparent by varnish, or its earthy particles are removed by acid, numerous vessels will be perceived through it in the interior of the cancelli, which in some measure permeate the osseous articular lamella, rendering it transparent, and their contents may then be seen and examined. To facilitate this examination, I have in some instances resorted to the application of varnish, and in others have removed the earthy particles from the bone by the aid of acid. Through the articular lamella numerous vessels of considerable size will be distinctly recog-

nized in the interior of the cancelli. These vessels enter the substance of the bone by the large foramina which are seen at its non-articular surfaces, and they converge towards the articular lamella. With the inner surface of this lamella, they not unfrequently appear to be in contact; and either in contact with it, or near to it, these vessels form dilatations and convolutions, and then take a retrogade course and become continuous with the venous system. Mr. Toynbee adds :—

"I believe that the large vessels which I have already described as forming convolutions and dilatations at the inner surface of the articular lamella, have the function of supplying the articular cartilage with a nutrient fluid, and that they do so without entering into its substance. It is necessary that the nutrient fluid brought to the inner surface of this lamella should penetrate its substance. It is most probable that it traverses only the thin layer of the lamella, and not the vertical portions. This thin layer has already been stated to be almost entirely composed of osseous corpuscles, which without doubt assist to convey the fluid from the cancelli into the cartilage.

It appears to me, that not only those vessels which are in immediate contiguity with the articular lamella have the function of nourishing the articular cartilage, but that the large and very numerous vessels which ramify through the substance of the cancellous extremities of bones, and which enter them by large orifices at their non-articular circumference, eliminate into the cancelli a nutrient fluid, which passes through the articular lamella and nourishes the cartilage.

That the nutrition of articular cartilage is actually effected by vessels in the cancelli, may be inferred from their dilatations and convolutions in its vicinity, and from the absence of any other means, as shown by my injections." 172.

He refers to a preparation of Mr. Swan's, and to some unpublished observations of his own on the morbid conditions of cartilage, in which blood-vessels *are* prolonged into its substance, in corroboration of his views.

Mr. Toynbee next proceeds to shew that *no vessels enter articular cartilage at its free synovial surface.* Mr. Toynbee thus speaks of the—

Vessels of the Synovial Membrane which cover the Articular Cartilage, and of the Nutrition by them of the latter.

During fœtal and infantile life, he says, previous to the period when the articular cartilages are subject to pressure, the synovial vessels extend over certain portions of them, from which in childhood and during adult age, owing to the functions of the joints, they are necessarily absent. At the period when the child begins to use the various joints, and subjects them to pressure, these vessels recede; and in adult life they are only found on that margin of articular cartilage which is exempt from the influence of external forces. The arteries which pass between the articular cartilage and the synovial membrane, like those of the fœtus, may be considered as the termination of the articular arteries. At the point where the reflexed becomes continuous with the articular synovial membrane, it contains large vessels subjacent to it, which are numerous and plexiform. Immediately, however, that they enter the cellular web, between the articular cartilage and synovial membrane, they become enlarged and straight, and pass to a greater or less distance over the border of the articular cartilage, forming loops frequently with considerable dilatations, and becoming finally continuous with the veins. The free surface of adult articular cartilage appears

to be nourished by the liquor sanguinis, which exudes from these looped and dilated vessels.

Mr. Toynbee thus sums up the leading inferences from his researches on *Articular Cartilages*.

1. Epiphysal and articular cartilage are developed and nourished in the early periods of fœtal existence, without the presence of blood-vessels in the substance of the former, or on the surface of the latter.

2. At subsequent periods, canals are formed in the epiphysal cartilage, vessels are prolonged into them, which converge towards the articular cartilage; and also vessels extend over a considerable portion of the free surface of articular cartilage.

3. At later periods, the epiphysal cartilage ossifies, and for a considerable time vessels are placed between the ossified nucleus and the articular cartilage.

4. As age advances, the osseous nucleus increases in size, the blood-vessels disappear from the cartilage which remains unossified, but the nucleus contains large and numerous blood-vessels.

5. Corresponding with the changes just noticed, is the recession of the blood-vessels from the whole of that surface of the articular cartilage which is subject to compression.

6. In adult life, the articular cartilage contains no blood-vessels; but in the cancelli of the bone at its attached surface, are numerous large vessels, from which the cartilage is separated by a delicate lamella of bone; the circumference of its free surface presents numerous dilated blood-vessels.

7. Articular cartilage during the whole of life gradually becomes thinner, by being converted into bone.

2. *Fibro-Cartilage.*

After noticing the contradictory opinions of anatomists, Mr. Toynbee states, that he has always found fibro-cartilage composed of minute fibres, and of the corpuscles characteristic of cartilage. He recognizes the division of the fibro-cartilages into two great classes—the first deprived of synovial membrane, as the intervertebral and symphytic fibro-cartilages—the second having two surfaces covered with synovial membrane, as the inter-articular. In both classes the fibrous portion of the tissue is most abundant towards the circumference, and in this portion only are blood-vessels found. In some instances, the centre of the fibro-cartilage is entirely composed of cartilaginous corpuscles. The cartilaginous portion is comparatively more abundant in young than in adult subjects, and in the latter it diminishes as age advances. This diminution of the cartilaginous portion is doubtless to be attributed to the gradual conversion of the cartilaginous corpuscles into fibres.

Mr. Toynbee gives an account of the intervertebral substance of the mackerel, the cod, the porpoise, and the dog. In all, the above statement is borne out. But we pass to the intervertebral substance of man at the various periods of existence.

a. In the human fœtus of the *third month* the intervertebral substance of the second and third lumbar vertebræ is firm and white at its circumference, soft and of a leaden hue towards its centre. The central part is

composed of numerous cells or corpuscles, some being round, others stellated. It also presents large masses of other cells aggregated together, and somewhat of a darker colour. Nearer to the circumference of the intervertebral substance the cells are arranged in distinct lines, and at its circumference they are elongated at each extremity, and so attenuated as to assume the appearance of fibres.

b. In a human fœtus of *seven months* the intervertebral substance is composed of the external fibrous and the central cartilaginous portions. The central portion is almost entirely composed of distinct round cells, which are found, on being traced towards the fibrous part, to become more elongated at their extremities, and to form, as it were, series of fibres. The fibrous portion is made up of circular layers of fibres, between which cells are interspersed.

c. In a human fœtus of *nine months* the central part of the intervertebral substance is soft, and is composed of cells, and of an intercellular substance. The external fibrous portion is distinct, and is interspersed with cells.

d. From the period of birth to adult age, the change undergone by the intervertebral substance, consists in the gradual encroachment of the fibrous portion upon the cartilaginous.

e. In adult age the central portion still continues to present corpuscles, although not in so great a number. They are always found interspersed through a gelatinous mass. The external fibrous portion also presents corpuscles between its circles of fibrous tissue.

f. In old age the corpuscles of the intervertebral substance are less numerous than in the adult. The fibrous tissue is also more dense and unyielding.

The symphytic fibro-cartilages present very similar conditions and changes.

Second Class of Fibro-Cartilages.

They, like the fibro-cartilages of symphyses, consist of an external fibrous and of a central cartilaginous portion. At the early periods of their development, the cartilaginous is more abundant than the fibrous portion, and it is almost entirely composed of corpuscles. As age advances, the fibrous portion increases in quantity; and towards the later periods of life, the corpuscles of the cartilaginous division are mixed with fibrous tissue.

Vessels of Fibro-Cartilage.—From injections of the intervertebral substance of man and animals, Mr. Toynbee has found that the external more fibrous portion is pierced by arteries of considerable size; these are guarded from compression by the dense nature of the fibrous tissue through which they pass. They course towards the central cartilaginous portion, into which, however, they do not penetrate, but in its confines they form large convoluted dilatations, from which the recurrent vein arises. The extreme edge of these vascular convolutions presents a line which may be considered as the boundary between the fibrous and cartilaginous portions of the ervertebral fibro-cartilage.

Very analogous appearances are observed in the fibro-cartilages of the symphyses.

Inter-articular Fibro-Cartilage.—"The central part of the inter-articular fibro-cartilages in the injected specimens that I have examined from the human fœtus as early as the third or fourth month, does not contain any vessels. I possess, however, the inter-articular cartilage of the temporo-maxillary articulation of a fœtal calf, which is pervaded by blood-vessels throughout its entire substance; a disposition which may take place in all fibro-cartilages at very early periods of their development. Subsequent to these very early periods, however, the central portion, which, like articular cartilage, is subject to concussion and compression, does not contain any blood-vessels." 178.

Of the inter-articular fibro-cartilages generally, it may be observed that arteries of some size pierce, and are arranged in different ways in the external fibrous portions, and converge to the cartilaginous portion, into which they do not penetrate.

Vessels extend to a short distance on the surface of fibro-cartilages, beneath the synovial membrane, but they are arrested at the part where these structures are subject to pressure, and at this margin they form dilatations similar to the synovial vessels which cover the border of articular cartilages.

Second Class of Non-vascular Animal Tissues.

This class comprises the *Cornea*, *Crystalline Lens*, and *Vitreous Humour*. These may be considered as constituting a class of non-vascular organized tissues, inasmuch as each of them is transparent, each forms a part of the eye-ball, and performs a similar function, viz. transmitting the rays of light to the retina. These three structures are nourished by the penetration into them of a nutrient fluid, which is derived from the numerous blood-vessels which encircle them; although each of them contains corpuscles, they differ from each other in their structure as well as in their relations with the vascular system.

Of the Cornea.

Mr. Toynbee first notices, to dispute, the statement of Müller, that the cornea has no corpuscles. Some of them are rounded, others are oval, and have fine branches radiating from them, similar to the osseous and pigment corpuscles. These cells are surrounded by the bright fibres of which Müller has spoken; these fibres, which compose the larger portion of the cornea, are laxly connected together, so as to have some analogy with cellular tissue; the substance of the cornea being of a loose texture, and easily pervaded by fluids. Mr. T. thinks that this easy penetration prevents the necessity for as many corpuscles in this as in the denser tissues.

Mr. Toynbee next describes the vessels which nourish the cornea, previously quoting the opinions of Boyer, Cruveilhier, Jacob, Lawrence, Romer, Tyrrell, and Wardrop. Mr. Toynbee then goes on to state:—

In an eye which is injected with tolerable success, the white scle-

rotic membrane will be observed to be traversed by two sets of vessels. One of these consists of small and numerous branches, which have a straight direction towards the circumference of the cornea. These are the ultimate branches of the sclerotic arteries which course towards the cornea. The other set of vessels is composed of the large and tortuous trunks which are seen with ease by the naked eye; these are the sclerotic veins, which take a retrograde course to the arteries just alluded to, and become gradually larger as they get more remote from the cornea; these sclerotic veins return the blood devoted to the nutrition of the cornea.

Upon examining *the arteries* with a magnifying glass, they will be found, at the circumference of the cornea, to terminate in two sets of vessels; of these, one is superficial, and consists of delicate branches which pass inwards over the surface of the cornea, between it and its mucous covering, and are analogous to the vessels of joints which pass between the articular cartilage and the synovial membrane. The other set of vessels in which the sclerotic arteries terminate, are much larger than those just noticed, and are more like the continuation of their trunks; these, at the circumference of the cornea, pass into the substance of the sclerotic, where they come in contact with the attached margin of the cornea.

The *superficial or conjunctival* arteries, upon arising from the sclerotic, take a course parallel with the circumference of the cornea, and are sometimes so long as to receive the name of its circular vessels: from these, branches are given off which pass in a direction towards the centre of the cornea. These, after division and sub-division, form a minute plexus on the border of the latter, and they terminate on its surface from one-eighth to half of a line from its circumference, by becoming continuous with the venous system, in several modes.

The small *veins* which arise from the arteries take an opposite course to the latter, and upon reaching the margin of the sclerotic, they empty themselves into the large tortuous veins, which have been noticed above, just as the latter are emerging from the substance of the sclerotic, where it is attached to the cornea.

The *deep or sclerotic arteries* of the cornea are those from which this structure derives its chief nutrition. They are large enough to be considered the continuation of the trunks of the sclerotic arteries; they pass without much diminution of their size towards the point where the sclerotic membrane is continuous with the cornea. At the margin of the latter they suddenly stop and turn back, forming loops; sometimes with, and at other times without dilatations, they become continuous with the veins. These veins emerge from the substance of the sclerotic, close to the margin of the cornea, at which point they receive the conjunctival veins: and they take a backward course, and form those tortuous veins which have already been noticed.

...ut, in disease, the marginal vessels of the cornea are prolonged through ...bstance, while those which, when healthy, extend over the surface of ...rnea from the one-eighth to half of a line, in disease form a band of ...derable extent.

The Crystalline Lens.

M. Schwann thinks, that the lens is at first composed of cells, which are afterwards converted into fibres. Mr. Toynbee has not only found cells interspersed among its fibres, but has frequently seen the fibres themselves composing the external part of the lens, made up of these cells; and in other instances they occupy the margin of the fibres only.

Speaking of the *blood-vessels* of the lens, Mr. Toynbee says—"I have not only been unable to trace vessels into the anterior capsule, but I hope to prove that in the healthy state no vessels do enter it. The posterior capsule of the lens is, however, injected with facility, and contains large and numerous ramifications of blood-vessels; I ascribe to them the function of supplying the crystalline lens with a nutrient fluid. These vessels arise from the arteria centralis retinæ; the latter, having traversed the centre of the vitreous humour, expands upon the capsule, and forms the ramifications just noticed. Now in some injections which I have made of the eyes of a human fœtus, of the sixth or seventh month, these vessels were not confined to the posterior surface of the capsule; they pass round its border and extend upon its anterior face to the extent of one quarter of a line. I have not been able to make a perfect injection of the vessels of the capsule of the lens in ages antecedent to the fifth or sixth month of the fœtal life, and therefore am unable to say whether, in the very early periods of development, the anterior capsule, like the membrana pupillaris, is entirely traversed by vessels; the crystalline lens would, under such circumstances, be completely surrounded by blood-vessels.

The branches of the arteria centralis retinæ in the early periods of life, as noticed above, extend upon the anterior surface of the capsule. Immediately they reach the latter they become straight, run parallel with each other, and are directed towards the centre of the anterior surface for the distance of a quarter of a line, when they stop in their course, and form looped dilatations, which give origin to small veins. It is most probable that these vessels recede at subsequent periods of development, so as to leave the whole of the anterior surface of the capsule capable of being permeated by the rays of light. These vessels, in a diseased state, are sometimes prolonged into the whole of the anterior capsule, (or to speak with more propriety, the anterior half of the capsule,) where, in morbid specimens, they have been injected by Schroeder Van der Kolk. The capsule of the lens is thus pervaded by large and numerous ramifications of blood-vessels, which I believe pour out upon its inner or lenticular surface a nutrient fluid; this *fluid will immediately come in contact with* the mass of delicate cells described by Schwann as situated between the lens and the capsule." Mr. Toynbee supposes that the nutrition of the lens is effected by these cells receiving the elements of the blood, and conducting them to the lens, through which they are diffused.

Vitreous Body or Humour.

The membrane of the vitreous humour is very delicate, and interspersed with corpuscles.

The arteria centralis retinæ passes through the vitreous body, but Mr. Dalrymple alone has succeeded in injecting from it the periphery of the hyaloid membrane.

Mr. Toynbee is inclined to think that the ciliary processes have the function of nourishing the vitreous body. "I have succeeded," he says, "in making very minute injections of the vessels of the ciliary processes, the disposition of which is remarkably beautiful; they have been most accurately delineated and described by Zinn. I have particularly to allude to the immense quantity of blood that their large size allows to be continually circulating through them, and to their plexiform character, which is productive of a slow circulation of the fluid they carry. At the free border of each ciliary process is a large single vessel, which is received into the base of the sulcus of the vitreous humour, and is in immediate contact with it. When it is remembered that the investing membrane of the vitreous humour is very delicate, and that it is made up of cells or corpuscles, and that it has in immediate contact with its free surface these large and numerous vessels, they may perhaps with great reason be considered as the organs of nutrition of the vitreous humour, by eliminating a nutrient fluid which penetrates into, and is diffused through, the substance of the latter."

THIRD CLASS OF NON-VASCULAR ANIMAL TISSUES.

Of the Epithelium, the Epidermis, Nails and Claws, Hoofs of various kinds, Hair and Bristles, Feathers, Horn and Teeth.

All these are extra-vascular tissues, developed on the surface of the chorion. Each of them is in contact, at its attached surface, with numerous and large branches of the vascular system, and, with the exception of the teeth, each is almost entirely composed of corpuscles or cells, which are of a somewhat circular form, where they are near to the vascular chorion, and are compressed and flattened where they are further removed from it. These tissues grow, by the addition to them, at their point of attachment with the chorion, of new cells, and from the increase in size of those already developed.

The *Epithelium* is composed of corpuscles which are round where they are in contact with the vascular chorion, and of others which are flat and in the state of scales situated at its free surface. Immediately subjacent to the epithelium the chorion presents ramifications of blood-vessels which nourish it, and which have different characters in different portions of the mucous membrane, according to the various functions which they have to perform.

The chorion of the *integuments* of the human subject, where it is subjacent to the thin and delicate cuticle, presents a minute and intricate network of blood-vessels. The arteries divide, subdivide, and form a network, from which the veins arise. The vessels of the chorion, however, are differently arranged, where it is covered by thick and dense cuticle. Thus, it is well known, that at the palms of the hands, the anterior surface of the extremities of the fingers, the posterior part of the heel and at the sole of the foot, the thick *epidermis* forming corns, &c., the arteries of the chorion are observed to terminate in numerous dilated loops, a disposition which bears a close analogy to certain synovial vessels. The

vessels of the chorion not only secrete the perspiration, but also form the walls of the sweat-ducts.

The *Nails*, "where in cohesion with the vascular chorion, are more or less soft; and when portions of them at this part are examined by the microscope, they are seen to consist of corpuscles somewhat compressed, and connected together by a gelatinous substance. The harder part of the nail consists of compressed and transparent corpuscles.

Although the nails do not contain any blood-vessels, they change their colour and become friable under certain conditions of the circulation, thus showing that their component cells have the power of circulating through them the fluid which is brought to them by the blood-vessels, at their attached surface.

The nails are in contact with the vascular chorion at two points; their attached margin is inserted into a groove of the chorion, and the attached surface lies upon that portion which covers the dorsum of the terminal phalanges.

The vessels which have the office of supplying the nail with a nutrient fluid are large and numerous. The arteries take their origin from the digital trunks, and they converge towards the dorsal surface of the terminal phalanx, on which they ramify, and where they may be considered to terminate in two sets of vessels; one of which is devoted to the supply of the ungual groove, the other to the ungual surface of the phalanx. The ungual groove is very vascular; it presents the ramifications of arteries, which, after division and subdivision, form large plexuses in the margin of that part of the groove which overlaps the nails, and the arteries terminate in loops of considerable size. The vessels of the ungual surface are of a considerable size; they form large convolutions; these give off branches which, with others from the interior and lateral part of the phalanx, form an intricate capillary network, which is in immediate opposition with the attached surface of the nail."

The Claws and *Horns* of *Quadrupeds* and the *Claws* and *Beaks* of *Birds* are in contact, at their attached surface, with large vessels. In some instances the bone upon which they rest is perforated by foramina, the chorion subjacent to them, and between them and the bone, is very attenuated, and they appear to be nourished also by the vessels contained in the bone itself.

Hoofs seem condensations of cuticle. In adult age that part of the hoof which is in connection with the chorion retains its analogy with the cuticle, but at its free surface it becomes hard and somewhat friable. It appears to Mr. Toynbee that the use of the elongated tubes containing white soft matter, and which pervade the substance of the hoof of the horse, is to convey through its substance the fluid secreted at its attached surface. The chorion subjacent to the hoofs of animals presents two different characters, the one being that of numerous fine villosities, the other of compressed lamellæ; these are received into depressions on the surface of the hoof, and are composed of vessels which terminate in loops, possessing frequently considerable dilatations.

Hair and *Bristles*, of various kinds, in the neighborhood of the vascular chorion, are composed of roundish corpuscles loosely connected; more remote from the chorion, their substance is harder; the corpuscles are

flattened, and they appear to possess the characters of horn. The chorion, with which the hair is connected, consists of a papilla, which is inserted into the interior of the base of the hair, and of a sheath or capsule which surrounds it; both the papilla and capsule are supplied with large and numerous blood-vessels, which form loops and dilatations.

Feathers near to the vascular chorion consist of corpuscles more or less compressed; further removed from the chorion they are highly compressed, and present a similarity to the hair. The chorion to which the feathers are attached presents a pulp and capsule, which have a disposition of vessels analogous to those of the hair.

The *Teeth* are now considered to be permeated by an infinity of fine tubes, which are supposed to have the function of conducting from the surface of the vascular pulp, a nutrient fluid, which is distributed over the substance of the tooth. In this way may be explained the manner in which the teeth change their colour during diseases, being impregnated by the various fluids circulating in the system.*

Mr. Toynbee thus concludes his exceedingly interesting and valuable paper.

"I think it is established, as a general law in Animal Physiology, that certain tissues are capable of being nourished without the presence of blood-vessels within them: it has been shown that all these tissues are surrounded by large blood-vessels, which appear to have no other function than of supplying to them a nutrient fluid; and the way in which this nutrient fluid is conveyed into the substance of these tissues has been also pointed out.

The analogy between the extra-vascular animal and the vegetable tissues is manifest.

The application of the above-named law to the study of *Surgery*, in reference to the causes of the prolongation of vessels into the extra-vascular tissues, and to the measures to be adopted for the prevention and cure of those diseases which are dependent thereon; and to *Pathology*, in the investigation of the nature of morbid structures, particularly of those classes which contain no vessels,—will, I feel certain, be productive of interest and great advantage." 189.

MORAL REVULSION IN THE TREATMENT OF INSANITY. By *F. Leuret*, &c. &c. Paris. 1841. (Preceded by the Report made to the Royal Academy of Medicine by MM. Louis, Pariset and Double. The Report was read at the Sitting of June 1st, 1841.)

M. LEURET's work consists, on the one hand, of some general remarks on the moral treatment of insanity, especially on the value and importance of moral *diversions* in combating mental alienation. It presents, on the

* "Recent investigators have thrown so much light upon the structure and the mode of growth of the *Epidermoid Class* of non-vascular tissues, that (as is apparent) I have added but few new facts in this department of my researches."

other hand, two striking and memorable instances of the advantages of M. Leuret's method of treatment, which consists in leading away or *diverting* the mind from the morbid track of thoughts and associations which it has been too long pursuing.

The moral means suited to correct the aberrations of reason M. Leuret divides into two series. The first series of these moral means consists in producing a well-arranged and judicious diversion on one or more of the intellectual faculties which have still remained unaffected and intact, by giving to these faculties an unusual activity, which may absorb all the rest, and arrest seriously and uninterruptedly the undivided attention of the patient. It is a moral principle, a point which no one will dispute, that we may more easily obtain the mastery over strange and extreme mental associations by a judicious and adroit method of diversion, than by attacking them front to front, and combating them directly. This principle M. Leuret has applied to the treatment of mental alienation. The advantages he has succeeded in obtaining from this moral generalship we shall see presently.

The second series of moral means has for its object to restore the morbidly changed faculties to their normal state by acting directly on these faculties. These means consist chiefly in admonition, exhortation and advice, as also in a certain degree of authority exercised with more or less determination according to circumstances. M. Leuret has been for this latter part of his system charged with employing something like *intimidation*—such a charge however is totally groundless. It is quite clear that, under certain circumstances and towards certain characters, a determined method becomes indispensable, and is attended with great practical advantage. Between individuals whose reason is lost, and those whose reason is not yet developed; between insane persons and children there are several points of analogy; it would be no more advisable to adopt one exclusive system of moral treatment towards all insane persons, than to pursue a uniform system of education for all children. Mildness is no doubt, as the general rule, the plan to be pursued; firmness however, though the exception, often becomes necessary.

These two modes of treatment, viz. the direct and the indirect, M. Leuret employs simultaneously or successively in the same individual; sometimes he selects one to the exclusion of the other. In this particular he is determined by the character of the patient and the nature of his mental disorder. Whatever be the mode of treatment adopted, whether a direct action on the perverted functions, or a diversion on the normal functions be decided on, great patience and perseverance become necessary. One very important precept which the author inculcates is, to profit by the amendments already gained, in order to obtain new ones.

With respect to the character of the patient and its influence in deciding the plan of treatment, it is well known that a moral method or mean which would act on one patient in one way, would act on another in an entirely opposite way. One patient is sensible to kindness, and affectionate attentions; another to flattery; another again is susceptible of fear; each must be taken on his weak side.

Of those insane individuals, whose mental disorder is exempt from all complication dependent on an appreciable lesion of the encephalon, and

more especially of monomaniacs, he observes that they, for the most part, enjoy good physical health, and stand in no need of pharmaceutical medication, the moral treatment alone being suited to their case. To subject such persons to blood-letting, purgatives, blisters, moxas and narcotics, &c. would be altogether unavailing and worse than unavailing. The treatment suiting their case is a moral medication; and the only agents to which we can have recourse are the mental operations, and ideas.

Before proceeding farther, we must take the liberty of expressing our objection to a very prominent term adopted by our author in this Essay, viz. the term "revulsion"—the analogy contemplated by M. Leuret, and which suggested the term, will, on more minute investigation, be found not to hold good. The term "*diversion*" is much more reconcileable to our modes of thinking.

The author avows the plan he adopted in many cases in the following words; we quote the passage, because we think it interesting and of practical application. "Around certain patients," says he, "who had been for a long time unsociable and even stupid, I contrived to collect everything calculated to awaken attention, and to excite desire in them, for want of any other means, I satisfied the greedy appetite of some for food, I created wants in others in order to stimulate their desire of correspondence with the world without; to some I allowed the indulgence of sights; to many of them music; to all, and as frequently as I could, intellectual relations with rational and reasoning individuals. Such," says the author, "is the advice I gave, and such the method I employed."

Nay, he did more; he, on some occasions, put himself face to face with the insane patient in order to struggle against him. The patient had passions, so had he; the patient had inveterate, determined passions, to which his very life seemed to cling; M. Leuret was actuated by feelings diametrically opposed to his, and he combatted him. Convinced of the truth of M. Esquirol's maxim, that, in order to be useful to the insane, one must love them, and devote himself for them, he hesitated not to engage in a struggle, the distress of which he well knew.

In the moral treatment of insanity, M. Leuret considers *revulsion* as the most effectual means; its employment, however, requires precautions, without the observance of which it were vain to have recourse to it. Among these precautions the most important is to let the patient remain ignorant of the end to be attained. The reason of this is sufficiently obvious.

The two cases given by M. Leuret in illustration of his method of treatment, we shall now present, as they serve as a practical resumé of the precepts regarding moral diversion.

The first case was that of a lady about 28 years of age, who had always enjoyed good bodily health, but who had been annoyed several times before her marriage with strange fancies. Having been present one day when a female friend of hers, who was becoming a nun, was taking the veil, she fancied that it was herself who made the vows. She communicated her thoughts to her mother, who did everything in her power to convince her of her error. At a subsequent period, being present at the marriage of another female friend of hers, she took it into her head, because she had affixed her signature to the contract, that she herself was the person engaged in the contract. She communicated her ideas on this occasion also to her mother, who tried every expedient to set

her right on the matter. Some time after she married, and, during the temporary absence of her husband, having returned to her mother's house, she was again annoyed by strange and absurd scruples. She fancied herself first a nun, then a priest, and ultimately a pope. Her mother, being a woman of a weak mind, did not combat these absurd notions with sufficient firmness; so that at length her imagination became so much persecuted by these absurd fancies, that she several times contemplated suicide in order to free herself from them. We must not forget to add that the lady experienced occasionally *nervous crises;* she struggled, cried, and conducted herself in such a manner as to alarm all the persons around her; she complained also of want of sleep and constant head-ache. The menses were quite regular, but at the period of their appearance there was an almost constant exacerbation of her mental delusion.

In this state of things M. Leuret undertook the management of the case. The patient had been told that he, and no one else, could cure her, and she believed it. He availed himself of this circumstance, and exacted from her a solemn promise that she would comply strictly with all his directions. He ordered her to be removed from her mother's residence, and to be removed to the house of a family who were entire strangers to her; he directed also that she should never speak of her ailments, either to any of the members of this family, nor to himself, and also that she should take such lessons as he wished her to take, either from some other person, or from himself. To this he added the use of baths, bread pills, and a ptisan rather unpleasant to the taste.

During the first month he was obliged to give all the lessons himself, as she was not disposed to pay sufficient attention to the other teachers to profit by their instructions. He gave her lessons in arithmetic, history and geography. All these restraints to which she was subjected, annoyed and thwarted her exceedingly; but as she was desirous of being cured, she submitted rather patiently. She gradually became attentive; she read, and studied with interest, and even with some degree of pleasure; she frequented different spectacles, and indulged of her own accord in all the habits of social life. At the same time her sleep returned, the pain of head had disappeared, and of her own accord she several times expressed her astonishment at having allowed herself to be carried away for so long a time by such absurd fancies.

She had now been four months under treatment, and her convalescence seemed fast approaching, though her medical attendant still dreaded a storm at each menstrual period. She then applied less to her studies, indulged more in fancies, and evinced some threatening of crises. M. Leuret, however, was satisfied by the previous history of the case, and especially by her conduct with respect to her mother, that her crises and mental inquietude might disappear, if she was willing to give up her indulgence in them. His efforts then were so directed as to produce this willingness in her. One day that she appeared to enjoy perfect freedom of mind and to be quite happy, she took advantage of an hour when all eyes were removed from her, to write a very desponding letter to her mother. This letter was sent to M. Leuret. Towards the period when her mental disturbance was commencing, he went to pay her a visit, and questioned her on the state of her mind, and more especially on her memory. She gave a satisfactory

answer with respect to her state of mind. He then requested her to tell him what she had been engaged in doing on the preceding day, and on several preceding days, and she did so. When questioned regarding the day on which she had written the letter, she dwelt with particular pleasure on the happiness of that day, but said not a word of her having written anything. M. Leuret, however, drew the letter from his pocket, rebuked her rather severely, accused her of breaking her promise to him, and detailed to her the long catalogue of the symptoms of her disease, and imputed them to her as so many faults of which she had been guilty towards those whom she should have loved most. She was confounded, could only stammer out a few excuses, and he withdrew. This was the termination of her disorder —her mental inquietude did not return; the menstrual period passed off without any unpleasant symptom, and her convalescence was perfectly established.

The treatment of this case lasted for six months, during all which time the patient took no medicine whatever; she was allowed perfect liberty; M. Leuret exercising no other constraint on her, save that of allowing her to think that he would abandon her, if she did not comply with his directions to the very letter.

Here we see the first efforts of the physician were to interdict all discussion on the subject of her delirium, and to accomplish this end, he diverted her mind as intensely and as perseveringly as he could, by compelling her to fix her attention on serious and useful matters. This dependence on her physician, which was entirely voluntary on the part of the patient, lasted just as long as the disease retained any serious symptoms; according as her intellectual powers began to return, the lady evinced a certain spirit of insubordination, which prompted her to neglect her studies in order to read novels, indulge in walking abroad and in being present at various spectacles, all which enjoyments she was totally averse to before.

This case fully proves the correctness of Locke's remark, that violent associations of ideas are frequently the origin of insanity.

In treating the above case, M. Leuret states that he was very much assisted by the unlimited confidence which his patient had in him. In the next case, however, the very reverse took place. It was nothing but the dread of the remedies, and the strangeness of his deportment as a physician, that effected a salutary revulsion.

A lady, 35 years of age, was seized with a species of ambitious monomania; she had enjoyed perfect health both of body and mind previously; the predominant features of her delusion were of an ambitious character; such at least was the account M. Leuret obtained from the patient's mother. She was placed in a maison de santé, where, after her mental disturbance had somewhat abated, she became dumb, or rather, she ceased to speak. She understood perfectly every thing said to her, and answered in writing with precision and correctness whatever was asked her; when questioned as to the cause of her silence, she wrote that she was completely deprived of the faculty of speech by an affection of the throat. In other respects, her conduct was not altogether rational; for having no means of supporting herself, except by giving instruction, and declining to do this, she attended to no employment whatever, relying on the

groundless expectation of obtaining a pension from the French government for her father's services.

Her dumbness had now lasted for eighteen months; and during all this time she had only uttered some few words in a low voice, and by way of trying; she had spoken to no person during all that time, and M. Leuret was apprized that, if he put questions to her, she would answer him readily, but in writing. M. Leuret, not wishing to have recourse to this method, was very much perplexed as to how he should proceed with her; when it occurred to him to affect dumbness with her.

This plan being determined on, he apprized the persons around her of it, impressing on them the necessity of keeping his secret; he then ordered the patient to be brought to him. He received her very coldly; placed a chair for her before the light; she sat down, and he made a sign to her to open her mouth very wide. She did so; he then pressed down the tongue, carefully inspected her throat, felt her neck, examined the state of the circulation; and when he had finished, he made a sign to her to arise and leave the room. His manner towards her was somewhat rough and abrupt, with the view of disposing her to get well as soon as possible, if it was only to get rid of his visits. His prescription was; a large plaster to be applied to the neck; mel rosæ to be applied to the bottom of the throat twenty times a day; and infusion of rhubarb, and mustard baths to the feet.

M. Leuret was much more successful than he had anticipated; as the remedies acted even before they were administered. The patient accompanied her mother to the apothecary, she saw all the preparations for the treatment to which she was about to be subjected, and, when every thing was ready, she came to her mother, and, reading with a loud voice out of some book, she uttered the following words, "I drink well, eat well, sleep well, consequently I am not sick, and have no occasion for a physician." And since that time, though it is now more than eight months since, her dumbness never returned.

With respect to this lady, as well as in the case of the other, who fancied herself pope, the appearance of the delirium was not occasioned by any appreciable physical cause, nor was it kept up by any bodily ailment. The indication to be fulfilled then was decided and positive: moral means were called for. When the brain, however, is diseased, when it is altered in its texture, and in its physical properties, the question arises, should the mental delusion dependent on this cause be also treated by moral means? M. Leuret thinks, the delusion should; but the bodily symptoms then existing, not. Physical treatment is necessary for the bodily symptoms: the moral treatment alone in such cases might be useless, or even worse than useless.

Another question presents itself; when mental alienation supervenes on the lesion of some other organ besides the brain, what is to be done? First, we must distinguish; for the two following cases may present themselves; either a sympathetic re-action is set up between the suffering organ and the brain, and there is then developed a mental aberration analogous to that observed in the acute delirium which accompanies abdominal disease, for instance: or else, the attention being directed to a state of habitual indisposition, or of pain seated in some part of the body, the

individual who complains of it, gives an erroneous and incorrect explanation of it; as in the case of persons, who, when they suffer pain in the stomach, say that they are poisoned. In cases of sympathetic delusion, to ascend to the cause of the evil in order to destroy it, is undoubtedly the best and almost the only indication; in such cases physical remedies are to be employed. But in the case where to real suffering there is joined a delusive idea, or delirious conception, adopted for the purpose of explaining its nature or its cause, to meet the real suffering physical remedies are necessary; whilst, again, for the erroneous conception moral means are required.

Of the two methods employed in the moral treatment of insanity, that which acts directly against the erroneous ideas can calculate on but little success, it is less frequently applicable than the other, and is not always exempt from inconvenience. A disputation entered into with an insane person on the subject of his insanity, if it is not useful, is almost of necessity injurious, and in order to be useful, it is not only necessary that the physician should have reason on his side, but he must also make the patient feel so: otherwise the latter finds in the success of a first resistance an accession of strength which increases his conviction and obstinacy.

The same cannot, however, be said of revulsion; it never does harm, and it is most frequently serviceable. To engage an insane person with objects foreign to his insanity, is, in fact, to free him, at least temporarily, from this disease, and to impart new vigour to his understanding. The means of accomplishing this kind of revulsion are varied ad infinitum; it includes everything which can strike the attention, awaken the imagination, or exercise the judgment; every thing, in fact, which can excite desires or passions. The skill of the physician does not then consist in discovering them, but in applying them judiciously.

For the purpose of diverting the minds of the insane, travelling, amusements, music, and, above all, bodily exertion, are recommended to them. If they are likely to prove dangerous either to themselves or to others, they are removed to special establishments, where such means of diversion as may be compatible with their state, are to be procured for them. In this particular, however, matters are but indifferently managed in these establishments. To effect real bona fide diversion on the mind of an individual who is a prey to certain fixed ideas, to force such a person to see, feel an interest in, and busy himself with, external objects, particular attention, vigilant direction, and indefatigable surveillance, are imperatively required. Too often, however, the victims of mental alienation are suffered to pine and languish in continual torpor. Bodily labour, so profitably employed in all countries in the treatment in insanity, has already produced immense advantages; these, however, are not sufficient; for bodily labour, though favourable to the re-establishment of the intelligence, does not rectify the ideas, as intellectual labour would do. Persons may work with their hands, and go on raving at the same time for whole years, inasmuch as the work of the hands opposes but imperfectly the wanderings of thought. It is not so with intellectual toil, which concentrates the attention upon one determinate object, and compels the mind

The Crystalline Lens.

...hwann thinks, that the lens is at first composed of cells, which ...wards converted into fibres. Mr. Toynbee has not only found ...rspersed among its fibres, but has frequently seen the fibres them-...omposing the external part of the lens, made up of these cells; ...ther instances they occupy the margin of the fibres only.

...ing of the *blood-vessels* of the lens, Mr. Toynbee says—"I have ... been unable to trace vessels into the anterior capsule, but I hope ... that in the healthy state no vessels do enter it. The posterior ... of the lens is, however, injected with facility, and contains large ...erous ramifications of blood-vessels; I ascribe to them the func-...upplying the crystalline lens with a nutrient fluid. These vessels ...om the arteria centralis retinæ; the latter, having traversed the ... of the vitreous humour, expands upon the capsule, and forms the ...ations just noticed. Now in some injections which I have made of ...s of a human fœtus, of the sixth or seventh month, these vessels ...ot confined to the posterior surface of the capsule; they pass round ...er and extend upon its anterior face to the extent of one quarter of ... I have not been able to make a perfect injection of the vessels of ...sule of the lens in ages antecedent to the fifth or sixth month of the ...life, and therefore am unable to say whether, in the very early pe-...f development, the anterior capsule, like the membrana pupillaris, is ...y traversed by vessels; the crystalline lens would, under such cir-...nces, be completely surrounded by blood-vessels.

... branches of the arteria centralis retinæ in the early periods of life, ...ced above, extend upon the anterior surface of the capsule. Imme-... they reach the latter they become straight, run parallel with each ... and are directed towards the centre of the anterior surface for the ...ce of a quarter of a line, when they stop in their course, and form ...l dilatations, which give origin to small veins. It is most probable ...ese vessels recede at subsequent periods of development, so as to ... the whole of the anterior surface of the capsule capable of being per-...d by the rays of light. These vessels, in a diseased state, are some-... prolonged into the whole of the anterior capsule, (or to speak with ... propriety, the anterior half of the capsule,) where, in morbid speci-... they have been injected by Schroeder Van der Kolk. The capsule ... lens is thus pervaded by large and numerous ramifications of blood-...s, which I believe pour out upon its inner or lenticular surface a nu-...fluid; this *fluid will immediately come in contact with* the mass of ...te cells described by Schwann as situated between the ... and the ...le." Mr. Toynbee supposes that the nutrition of the ... effected ...ese cells receiving the elements of the blood, and conducting them to ...ns, through which they are diffused.

Vitreous Body or ...mour.

...e membrane of the vitreous humour ...licate, and in... ...orpuscles.

...e arteria centralis retinæ passes thr... ...us body, ...mple alone has succeeded in injecting ... ...l membrane.

from nephritis; and moreover says, 'In this city (Edinburgh) we have few opportunities of ascertaining the diagnosis between nephritis and granular degeneration, as the former is an extremely rare disease.'

This opinion, as to the rare occurrence in this country of idiopathic nephritis, is held by most physicians, at least very few have recognized many cases of it, and the majority say they have not met with a case of acute idiopathic inflammation affecting the kidney. Why organs performing so important a function, and so largely supplied with blood, which are especially subject to irregularity in their amount of action, and to sudden and extreme increase of vascularity from their sympathy with, and antagonism in function to the skin, should be so remarkably exempt from inflammatory action, when we find all the other important viscera of the chest and abdomen so frequently inflamed from the operation of causes which must act with at least equal power on the kidneys, is a mystery which has never been satisfactorily explained. If all the cases of the acute form of granular disease be considered as instances of idiopathic nephritis, then the latter disease will be found to be at least as frequent in its occurrence as most other acute visceral inflammations." 10.

We confess that we have long taken a very similar view. We have entertained and expressed the opinion, that the granular disease of the kidney is essentially inflammatory or congestive, analogy as well as positive facts seeming to lend support to this conclusion. The granular disease is a common consequence of stricture of the urethra, and we can understand why, being an inflammatory affection, it should be so. We apprehend that, ultimately, pathologists will come to view the matter in this light.

The second chapter contains a comparison of the symptoms of the acute stage or form of granular disease, with those of acute nephritis. In this stage, says Mr. Robinson, the symptoms are rigors and other usual signs of inflammatory fever; pain in the loins, more or less increased on pressure; pain across the pit of the stomach; nausea, and vomiting, with an irritable or even inflammatory condition of the bladder; and so far they precisely correspond with those of nephritis. But there are two additional ones which are certainly not mentioned by authors as occurring in the latter disease, viz. the frequent co-existence of acute inflammatory anasarca, particularly affecting the hands and face, and a scanty, bloody, highly albuminous condition of the urine. With respect to the former symptom, as idiopathic nephritis is considered to be so rare a disease in this country, it is possible that late writers may not have recognized a sufficient number of cases to enable them to decide whether this anasarca is or is not occasionally present in that disease. At any rate, as it is not an invariable and constant accompaniment of the acute stage; so, supposing the latter to be but nephritis, the presence or absence of this symptom will not of itself be sufficient to decide the question in any particular case.

Mr. Robinson seems to aver that albumen does occur in the urine in nephritis, and draws from the assertion support to his argument. In the *chronic stage* the symptoms in many respects are similar to those of the acute, but diminished in intensity so far as the local affection is indicated, and modified in character by the supervention of numerous complications, each of which will give rise to morbid sensations and phenomena varying with the situation and function of the part affected.

Thus the febrile symptoms will be less marked, or may be altogether absent, or at least imperceptible; and the pain in the loins will be so reduced as to amount to little more than a sense of weight and fulness. The nausea assumes a more chronic disposition, being less frequently attended with vomiting, although in many cases the latter and chronic diarrhœa form leading complications, and by inducing exhaustion shorten the life of the individual. The proportion of albumen in the urine is less than in the acute stage, whilst the quantity of the latter fluid secreted, approaches to or may even exceed that of health, but is characterised by the small quantity of solids contained in it. According to Dr. Christison, the proportion of hæmatosine in the blood is greatly diminished in the advanced stages, a circumstance which he looks upon to be pathognomic of the nature, and even indicative of the progress of the disease: the blood is also deficient in albumen, and contains a great quantity of aqueous fluid so that it coagulates faintly, and the clot is loose and gelatinous.

Mr. Robinson thinks that we should wait before we decide that the deficiency of hæmatosine in the blood is peculiarly characteristic of granular disease. May not hæmatosine be equally deficient in all cases of long-continued or excessive albuminous discharge? A question, in our opinion, very pertinent and reasonable.

Mr. Robinson makes some judicious remarks on the complications of granular disease, more particularly upon dropsy. He adds:—M Rayer believes, that dropsy always occurs in granular disease of the kidney, or albuminous nephritis, as he terms it, and in that only; but Dr. Christison says, that dropsy does not always exist in that disease, and that some have even supposed it to be occasionlly present in nephritis, thus doing away with any value that might be attached to this symptom as a peculiarity of granular kidney. If the above views as to its origin are correct, it is evident that it may or may not occur in nephritis; but that when present it indicates a debilitated or deranged condition of the cutaneous circulation, and therefore will be more generally met with as a symptom of nephritis in those localities, where, from a cold climate, a marshy or damp soil, or a proximity to large surfaces of water, the functions of the skin as a secreting organ are more or less impaired.

The third chapter is occupied with the consideration of the morbid appearances of granular disease and of nephritis. Those of the acute stage of the former are quoted from Dr. Christison.

"The kidneys are flabby, friable, and much enlarged; they are darker and more vascular externally, and with points and star-like spots of ecchymosis; internally they are of a dark brownish red, or almost reddish black, gorged more or less with blood, which drops from a cut surface in unusual quantity; and they often present throughout their whole structure, but more especially in their cortical portion, lines and specks of a still darker colour and not easily removed by washing. Sometimes this congested state of the kidney prevails throughout the whole organ equally; at other times the cortical structure seems chiefly affected, and presents a more distinct and coarsely striated appearance than natural, probably from blood being injected or extravasated in lines into the fundamental cellular tissue. The cortical structure is almost always broader than in the healthy state, as if it were distended towards the circumference by its gorged condition.

The appearances found in the kidneys of those who have suffered from anasarca and albuminous urine, consequent on scarlatina, are described as resembling very much those of the acute stage. In the article on this subject, in the Cyclopædia of Practical Medicine, the same author remarks that a granular deposit is present even in these acute cases though it cannot at once be distinguished from the surrounding structure, as it is of the same colour, but may be recognised when the kidney is injected, as the fluid does not enter the granules." 30.

Such appearances might well be occasioned by acute congestion. Mr. Robinson produced this in an experiment. He cut down to and exposed one kidney in a rabbit and tied the renal vein, returning the organ immediately into its natural position with the artery uninjured. The animal died about fifteen hours afterwards, and on examination the kidney in question was the only organ found affected; it was intensely congested and very much enlarged, being nearly twice the bulk and weight of the healthy organ; of a dark red or blackish colour, in some places soft and easily torn, and the granular appearance on its surface more distinct than natural, as if from enlargement of the granules. On making a section it was throughout intensely gorged with blood, which seemed infiltrated into the cellular tissue of the organ: there was a little bloody urine in the bladder which contained two or three minute coagula, and became nearly a solid mass on applying heat. This experiment was repeated with precisely the same results as to the condition of the kidney, but from the ureter having been divided and tied, the urine secreted could not be examined. Perhaps the value of any conclusions drawn from these facts is increased from the circumstance of M. Rayer and Dr. Osborne having found fibrinous clots filling the renal veins in those who had died in the acute stage, an occurrence which shows that a very imperfect and retarded, if not a completely obstructed, circulation through those vessels had existed during life.

The granular appearance of the exterior was also more distinct in the congested kidney, arising from the distention of the granules naturally existing there. M. Rayer has likewise observed the Malpighian corpuscles to be congested in this acute form, and as they are composed chiefly of minute arteries, does it not seem very probable that the granules which Dr. Christison failed to inject (possibly from the renal *artery*), were merely these bodies enlarged from the distention of their constituent vessels in which the blood had coagulated, and from which, owing to their minuteness, it could not be washed out, preventing by its presence the entrance of the injected fluid into the granules?

After quoting Dr. Christison's summary of the morbid appearances of the chronic form of the complaint, Mr. Robinson avails himself of the arrangement of Dr. Bright, which adopts two leading varieties. In one, the cortical substance is made up of granules of various size and shades of colour, ranging from red to purple and yellow, the kidney being generally somewhat diminished and indurated; in the other, the organ is usually somewhat enlarged in bulk, its cortical substance consisting also of granules, but a flaky white interstitial deposit exists between them, masking their presence and rendering the structure apparently more homogeneous: after maceration, however, the interstitial deposit being washed

away, the granules, as in the former case, are found to constitute the greater part of the cortical substance. So that the chief points of distinction between the two varieties are the greater induration and contraction in the one case, the granules being in close apposition with each other; whilst, in the second form, the size of the organ is somewhat increased, and the cellular tissue between the granules is replaced by what Mr. Robinson considers ordinary albuminous effusion.

The granules are looked upon by him as the Malpighian corpuscles in a state of congestion; and the following is his explanation of the two varieties in question.

"In both I suppose a degree of congestion to have existed for a sufficient length of time to produce enlargement of the Malpighian corpuscles, by the coagulation of the blood contained in their distended vessels: their various shades of colour are caused by the imperfect absorption of the colouring matter of the blood passing through all the intermediate tints from red to white as in other situations. But, in the first case, from the contraction and induration I should feel disposed to consider the disease as one of long continuance, and from the absence of any interstitial deposit it appears highly probable that a sufficient degree of inflammation, to produce albuminous effusion, had never existed in the organ, but that from some slight obstruction, retardation of the circulation through, and consequent fibrinous deposition in, the vessels of these corpuscles had gone on slowly and gradually to the destruction of the surrounding healthy tissue by absorption from their pressure. In the second form, the cause having been more intense in its action, and the examination of the organ having probably taken place at an earlier period, the appearances are very different. The congestion has been so great as not only to cause enlargement of the granules, but also to induce albuminous effusion into the intergranular cellular tissue, and of course the extent of this effusion will vary in different cases. This form may be considered as holding an intermediate place between the former or more chronic, and the acute stage first described; it may therefore be termed subacute nephritis. Hence a practical division of cases of nephritis, founded on their morbid appearances, into three forms or degrees. 1. The acute, in which the engorgement of the vessels has been so great as to cause their rupture, and sanguineous infiltration of the organ. 2. The subacute, or that accompanied with more or less interstitial albuminous deposit; and, 3. The chronic, in which the congestion has never been sufficient to produce any permanent kind of effusion. Suppuration may supervene on any of these forms, but in general only occurs in the two former." 40.

Mr. Robinson relates an experiment which we need not quote, as it is rather ingenious than conclusive. The fourth chapter is on the Causes of Granular Kidney, and asserts their identity with those of nephritis. The fifth chapter is dedicated to the consideration of the albuminous condition of the urine. Mr. Robinson notices the hypotheses that have been advanced to account for its occurrence. After some observations of rather a speculative character upon secretion, the gist of which is to shew that the blood contains the materials of the secretions as well as of the excretions, Mr. Robinson thinks himself justified in saying, that *albuminous effusion* is always the consequence of a congested or distended state of the capillaries of the part, and that in a healthy condition of the blood the *proportion* of albumen in the effused fluid may be considered as commensurate with the *degree* of that congestion.

The arguments by which this idea are backed must be deemed rather

hypothetical, indeed fanciful, and we need not, therefore, insist upon them. He deduces from them this rule—That the presence of albumen in the urine is produced by, and its proportional quantity is in a direct ratio to, the degree of congestion of the capillaries of the kidney, from whatsoever cause that congestion may arise.

Mr. Robinson applies his rule to the explanation of albuminuria from other causes than granular disease. Thus he remarks, albuminous urine has been met with by Solon in dropsy and obliteration of the cortical portion by cysts: by Rayer in three cases, one of hæmaturia with cancer and calculus in the kidney, another of true tubercular disease of it, and the third of inflammation of that organ and the bladder; by Christison in cerebriform disease; and by Syme in strumous disease. These cases are mentioned in Dr. Christison's work as well authenticated, and it seems to Mr. R. that they are all explicable by the above rule, for each morbid deposit, supposing it to act simply as foreign matter in occupying so much space, is adequate to the production of albuminous urine; but when, in addition to this, it is remembered that by its irritating action more or less inflammation of the contiguous portion or of the whole organ must be consequent on its continued presence, these two causes of obstruction to the renal circulation seem to me quite sufficient to account for that effect.

There is another class of cases in which, from various causes, the circulation through the abdominal and renal veins becomes more or less obstructed, and thus sometimes spontaneously, perhaps more frequently from the conjoined effect of accidental determination to the kidneys, a sufficient degree of congestion of these organs is produced to cause the temporary appearance of albumen in the urine. Thus it has been observed in cases of peritonitis (probably affecting chiefly that portion adjacent to the kidneys) by Nystel and others; in pregnancy by Rayer; during the crisis of fever, certain cutaneous affections, and some inflammatory diseases, (particularly pneumonia,) by Solon; in hypertrophy of the heart, with valvular obstruction by M. Forget; in chronic inflammation of the liver by Graves; in phthisis, sometimes slightly in diabetic urine, and in a few other cases, in all of which, either from suspension of the cutaneous function and consequent increased action of the kidneys, or from a direct obstruction to the venous circulation in which the renal veins participated, some degree of congestion in these organs may naturally be supposed to have existed.

Mr. Robinson next alludes to the exceptions to the rule insisted on. They may, he observes, be briefly stated to be comprised in those cases in which pus or other albuminous matter is suspended in the urine from inflammation of some part of the genito-urinary mucous membrane. Thus it has been found more or less albuminous in cases of old and severe stricture, in a bladder inflamed and irritated by a calculus, during the passage of a calculus down the ureter, and would probably present the same character if examined in the acute stage of gonorrhœa; but it must also be remembered that these affections will each ultimately tend to produce renal congestion and irritation, so that in old cases it will sometimes be a doubtful point to determine whether the albumen is derived from the inflamed mucous membrane or from the kidney.

As the pelvis of the kidney may be considered to form a part of that

organ, as we can hardly suppose its lining membrane to be inflamed without affecting that of the tubuli uriniferi, and thus involving the contiguous vessels, and as the definition of this as a distinct disease must be very difficult, and would serve no practical end even if it were possible, the recognition of its existence as a separate affection under the name of pyelitis, as proposed by M. Rayer, does not seem required.

A diseased condition or unnatural fluidity or tenuity of the blood, as in scurvy, or that peculiar condition of the vessels which induces excessive hæmorrhage from slight causes, and which has been found hereditary in some instances, may each cause the presence of albumen or blood in the urine.

Mr. Robinson offers an explanation of the low specific gravity of the urine in granular disease. Urea, says he, is found in the blood: it would seem to be the product of a species of decomposition of animal matter going on during the circulation of that fluid, the quantity of it excreted from the system being greatest after the consumption of azotised food, and commensurate with the proportion of animal principles existing in the blood. Now, during the progress of chronic nephritis, it has been shown that the blood becomes impoverished, the albumen escaping from it in the urine being replaced by water, and the debility being still further increased from the impediment to nutrition, occasioned by the frequent complication of vomiting and diarrhœa.

The substitution of water for the important principle, albumen, must necessarily diminish the quantity of those azotised matters formed in the blood by the decomposition or deterioration of its more animalised portion, and hence the deficiency of urea and the lithates in this disease. Viewed in this light, the low specific gravity of the urine cannot be considered as indicating more than an impoverished condition of the blood, which state we know may also occur in many other diseases, and hence any value which might otherwise attach to this symptom, as diagnostic of this particular affection, must be rendered doubtful till future experiments shall decide as to whether a similar state of the urine does not accompany the same condition of the blood in every disease in which the latter is present, as after long continued suppurative or other albuminous discharges.

The sixth Chapter, the concluding one, contains some practical deductions from the views that have been taken.

The first object is to determine whether albumen is present or not. The next is to assign it to its right cause, and by examination of the condition of the urethra and bladder, to endeavour to determine that cause. The absence, observes our author, of any adequate cause in the urethra or bladder being established, we may conclude that the albumen present in the urine arises from, and consequently indicates the existence of, a certain degree of congestion in one or both kidneys. By frequently examining the proportion of albumen in the urine, any increase or diminution in the intensity of the renal congestion can be at once detected, and the efficacy of any remedies tested. This simple examination of the urine will conduct the inquiry so far, and if any considerable decrease in the amount of solids contained in it be found to continue permanently, then the probability will be that from some cause or other the blood is in

an impoverished condition; and here any assistance to be gained from ascertaining the constitution of the urine would seem to stop.

The causes of the affection must be ascertained by a careful examination of the symptoms and concurrent circumstances. Thus, remarks our author, whenever anasarca is found to co-exist, the possibility of the disease having been primarily induced by an impaired state of the skin will naturally suggest itself, and inquiries will be made with the view of learning whether from occupation or accident, or from the pre-existence of some exanthematous or other disease, such a disorder of the cutaneous circulation as would arrest its healthy function had not been produced. If the patient has been for a length of time affected with diseased heart or liver, or is in the advanced stage of phthisis, or if a tumour is situated near the course of the large venous trunks of the abdomen, and if the urine indicates only a slight degree of congestion in the kidneys, the inference will be that the latter affection is the consequence of obstruction to the return of blood through the renal veins from the existence of one of the former diseases. The age and appearance of the patient, and the simultaneous affection of the lung or other organs, will enable us to form an opinion as to the possibility of the renal congestion being kept up by scrofulous or tuberculous deposit in the organ; and if calculous matter has been passed with the urine at any former period, or if the present composition of that fluid is such as to strengthen the idea, we may, in the absence of any other adequate appreciable cause, attribute the albuminous urine and other signs of nephritis to the lodgment of one or more calculi in the kidney.

Mr. Robinson thinks that if we agree to his view, the prognosis will be rather more favourable than it has been. And it will of course give a tone to the treatment. Thus, in the acute form, repeated bleeding, general and local, active cathartics, diaphoretics the most direct and powerful, such as Dover's powder, antimonials and the warm or vapour bath, and afterwards counter-irritants, have been found most effectually to relieve the symptoms and diminish the intensity and danger of the attack. In chronic nephritis a less vigorous course of treatment, modified according to circumstances, but based on the same principles, is recognised as the only one from which beneficial results can be expected.

Mr. Robinson alludes to the vexata quæstio of diuretics. "If," says he, "the explanation which I have ventured to suggest, as to the immediate cause of the albuminous deposit in the kidney and also of albuminous urine, be correct, then all stimulating diuretics are decidedly contra-indicated so long as the continued existence of that cause is manifested. It even seems to me quite possible that large doses of diuretics given in the advanced stages of the disease, when the function of both kidneys has to be performed by a minute remaining portion of secreting tissue, may materially hasten the fatal termination by increasing the degree of renal congestion. Any arguments derived from an apparent increase of the solids discharged from the system in the urine under the use of diuretics must be more or less subject to fallacy, as it has been observed by Woehler, that all substances acting as diuretics contain principles which are themselves excreted by the kidneys.

When, therefore, diuretics are given at all, the condition of the kidney

should be previously ascertained by examining the proportion of albumen in the urine, and if it is found in such minute quantity as to indicate a very slight degree of distention of the renal vessels, then the stimulus of very small doses of diuretics might perhaps cause the relaxed capillaries to recover their tone or contractility more quickly, and thus facilitate the progress of cure. If, however, diuretics are found to increase the proportion of albumen in the urine much, they should either be given in smaller doses and less frequently, or their use may be suspended for a time; and probably they should never be employed till after depletory measures have been resorted to for the purpose of reducing that increased arterial action on which the active congestion of the kidneys depends."

Blisters are naturally reprobated, and the employment of mercury, in the acute form, and in healthy persons, rather recommended.

The pamphlet before us, if tinctured by too much speculation to suit the practical spirit of the day, is by no means deficient in merit, and we have given the views of its author at some length because they appear to be in many respects just.

CLINICAL RESEARCHES ON AUSCULTATION OF THE RESPIRATORY ORGANS, AND ON THE FIRST STAGE OF PHTHISIS PULMONALIS. By *Jules Fournet*, Paris. Translated from the French by *T. Brady*, M.D. Fellow, and Professor of Medical Jurisprudence, in the Dublin College of Physicians. Part I. London. Churchill.

M. FOURNET's work consists in the original French, of two parts; the first containing his Researches on Auscultation of the Respiratory Organs, and the second, his Researches on Phthisis Pulmonalis. Though the principal aim of the author has been to establish the diagnosis of phthisis in its earlier stages; this first part will be found to form a tolerably complete system of auscultation of the respiratory organs,* "in which, while some errors, sanctioned by the authority of Laennec, are rectified and some omissions supplied, most of the physical phenomena are considered in a point of view somewhat different from that in which they were contemplated by the great discoverer." It is not a little extraordinary, nor indeed, a little complimentary to the genius, sagacity, and persevering industry of Laennec, that the science of stethoscope, instead of growing up slowly and gradually, and becoming matured under the fostering care of his successors, should have come forth from his brain, as Minerva came from the brain of Jove, a full-grown and adult maid, armed cap-à-piè, and perfectly prepared for the discharge of the duties of her assigned mission.

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* Translator's Preface.

True it is, that from time to time, various little additions have been made, and some rather hasty generalizations of Laennec have been corrected or at least restricted; but, if we remember, that the individuals who ventured on introducing these improvements, religiously followed in the footsteps of the great original himself in so doing, never swerving either to the right or to the left, we shall be disposed to consider such improvements as donations of tributary offerings to this offspring of their master in acknowledgment of her all-perfection and undisputed sway, rather than as by any means implying any thing like a deficiency or imperfection in her congenital endowments.

M. Fournet, however, in a spirit, certainly not of gallantry, rather of knight-errantry, which some of Laennec's old and attached followers will be disposed to designate Quixotic, has boldly come forward to dispute the pretensions of the lady, and to question her right to her so-long recognised authority. Whether M. Fournet was actuated to this bold and adventurous enterprise by his conviction of the truth of the pathological law, that precocious children are in general ricketty, we know not. We shall now, however, proceed to see what he has to say for himself. He has divided his work into two parts, the first containing his researches on auscultation; the second, those on phthisis. With respect to the subject of the first part, he says, that the analysis of the two murmurs of respiration, the inspiratory and the expiratory murmur, instead of the single murmur, as described by Laennec, has multiplied the number of signs by means of which we recognise the diseases of the respiratory organs, and has dissipated some errors which followed necessarily from the consideration of a single murmur, instead of the two that really exist.

The analysis of a greater number of the properties of sound, than Laennec noticed, has enabled him to ascertain a greater number of morbid modifications of the respiratory murmurs, to establish new relations between the symptomatology and pathological anatomy, and to multiply, by this new means, the signs of pulmonary disease. The determination of the law of co-existence of the morbid sonorous phenomena of the respiratory apparatus with inspiration or expiration, has served also to increase the number of these relations and signs.

Our author tells us that, on listening attentively to the respiratory murmur in persons with healthy and well-formed chests, he was astonished to hear two sounds, instead of the single one described by Laennec. On prosecuting the inquiry, he felt satisfied that, in the normal state, *inspiration and expiration were each accompanied by a very distinct murmur;* the latter being merely much weaker than the former. This division of the single sound, named by Laennec the respiratory murmur, is further confirmed by pathological observation, as the weaker sound is found to become at times the stronger, and *vice versâ*.

The fact of the existence of the two murmurs being established, their morbid modifications being also clearly ascertained, as well as the existence of a number of signs corresponding to these modifications, it is necessary, in order not to lose any of those signs, to investigate in the normal murmurs all the different circumstances from which they may be derived. By this means the number of signs will be increased, and the science of auscultation will gain both in extent and in precision; in extent, by the

appreciation of a greater number of characters, both normal and morbid, and by the application of these characters, to two sounds instead of one; in precision, by the more rigorous analysis of these characters, by the greater facility of comprehending the chain of their relations, and the general principles which govern them.

The following are the fundamental characters which the author deems it useful to analyse in the respiratory murmurs:—

1. The proper or distinctive character. 2. The hard or soft character. 3. The dry or humid character. 4. The quality (*le timbre*). 5. The tone. 6. The intensity. 7. The duration. 8. The rhythm. All the morbid modifications of the respiratory murmurs, capable of any practical application, the author refers to one of the above sources.

After attempting to explain the meaning he attaches to these different characters, he shows that they may be combined with each other in a thousand ways, and that the diagnosis may be most materially aided by the analysis of these combinations. For the purpose of illustrating the nature, mode of production, morbid modifications, and semeiological import of these several characters, more especially of the dry, humid and bubbling characters, he adduces some very ingenious experiments with sponge, the different physiological and pathological conditions of the lung being capable of being tolerably well represented by the sponge suitably adjusted. The same experiments serve also to illustrate the mode of production of the inspiratory and expiratory murmurs and their relation to each other.

"The murmur of inspiration and that of expiration," says M. Fournet, "marking each a separate period in the complete movement of respiration, the different morbid sounds may present themselves with the one or the other only, or with the two together; and as the causes on which this co-existence depends are usually physical causes, fixed causes, it follows that the co-existence of the morbid sounds with such or such a period of respiration, may, in many cases, furnish useful diagnostic signs, because we are in this way enabled to ascend from the effect to the cause."

Dr. Jackson, a young American physician, and who had prosecuted his studies in the Parisian hospitals with considerable eclat, was among the first, if not the very first, who made mention of the expiratory murmur. What he has said of it, however, refers to its morbid form, it having been first observed by him in a case of tuberculated lung. This occurred as far back as 1832. Several other pathologists also, among the rest Andral and Louis, have recognised the presence of the expiratory murmur both in the healthy state, as well as indicative of certain morbid conditions of the respiratory organs. Dr. Cowan also, in the notes appended by him to his translation of Louis on Phthisis, more than once points out the importance of the expiratory murmur, as a means of diagnosis in the very early stage of that disease. It is rather strange that the existence of the expiratory murmur was recognised in pathology, before it was even suspected in physiology; this circumstance, however, can be readily explained from the fact of its being much more developed, and, consequently, much more appreciable in the former than in the latter. Our author, after giving certain precepts for the practice of auscultation, in which, however, there is nothing novel or extraordinary, proceeds to—

CHAP. I.—ON THE PHYSIOLOGICAL SONOROUS PHENOMENA OF RESPIRATION.

He first considers each section of the respiratory apparatus separately, and investigates—1st, the characters of the inspiratory and expiratory sounds in each; 2nd, the successive alterations these sounds suffer, the differences they present in these different sections; 3d, the relation between these alterations, and the differences in texture of the parts where they originate; and 4th, he proposes to inquire whether the sounds produced are exactly the same on both sides.

Inspiration.—In the vesicular section, the proper character of the inspiratory sound is a light *breathing*, or *blowing;* perfectly pure, without any admixture of an accessory sound; the author objects to the epithet *vesicular* being applied to this murmur in its natural healthy state. The duration and intensity of the inspiratory murmur are two characters which should be well appreciated in consequence of their symptomatological value. The expiratory, like the inspiratory murmur, is represented in its proper character by a pure and gentle murmur. For the purpose of avoiding the inconvenience of a *nominal* valuation, which cannot serve as a unit of measure sufficiently exact to enable us to compare with it the modifications these characters undergo, he has adopted a numerical valuation of them, selecting the numbers 10 and 2 to express the comparative intensity and duration of the inspiratory and expiratory murmurs; viz. the intensity and duration of the inspiratory bearing the same ratio to those same characters of the expiratory murmurs, as 10 bears to 2. Though, the numbers 5 and 1 would express the same ratio, he prefers the larger numbers, as affording him a longer scale of increase and decrease above and below these two extreme limits. He next considers the bronchial, tracheal, laryngeal, pharyngeal, &c. sections; and first

Normal Bronchial Respiration, and the differential diagnosis between it and morbid Bronchial Respiration.

The only part, generally speaking, where the normal bronchial respiration can be heard is the part of the posterior region of the chest corresponding to the root of the lungs. The normal bronchial respiratory murmur differs from the morbid bronchial, 1st, in its intensity, which is much less; 2nd, in its duration (shorter); 3d, in its *quality*, which is much less marked; 4th, in its exclusive and very circumscribed seat at the root of the lungs; 5th, in its co-existing more peculiarly with the period of expiration, while the morbid bronchial character, at a somewhat higher degree, co-exists equally with both periods.

Our author next cautions the stethoscopist against mistaking the buccal, pharyngeal, or nasal sounds for the bronchial respiration, and then considers the question, whether the respiratory sounds are the same in the two sides of the chest, and in the different regions of the same side? From numerous examinations made by him he is satisfied that, in the normal state, the respiratory sounds are equally audible on both sides of the chest, and *that whenever we find a difference between the murmurs at the summits*

of the lungs, this difference may in general be attributed to a pathological condition. This question, thus peremptorily solved by M. Fournet, is one of great practical importance; Dr. Stokes entertains on this point an opinion directly the reverse; his experience leads him to think that in many cases there is a natural difference between the intensity of the murmur in either lung, and that in such cases the murmur of the *left* is distinctly louder than that of the right.

With respect to the normal resonance of the sounds of the heart in the sub-clavicular regions, our author makes a remark of some practical importance; namely, that the mere equality of the resonance of the heart's sounds under both clavicles may, in the majority of cases, be considered an indication of an increase of density at the top of the right lung. This sign may be turned to account in the diagnosis of the first stage of phthisis.

CHAP. II.—THE MORBID SONOROUS PHENOMENA OF RESPIRATION

Are divided into two classes: 1st, such as are merely modifications of the normal sonorous phenomena; 2nd, such as, not having previously existed under any form, are newly-developed in consequence of certain organic alterations, as metallic tinkling, the pleuritic friction sounds, &c. Again, the modifications in the normal sonorous phenomena of respiration he classes under four following heads: modification by increase—by diminution—by cessation—and by perversion; the modifications by perversion establishing a sort of transition or connecting link between the two classes. The various ronchi, which Laennec considered as foreign to the sounds of respiration, M. Fournet considers as being only modifications of certain normal characters of the respiratory sounds. The modifications by augmentation or diminution do not affect the nature of the respiratory murmurs; they affect only their intensity and duration. The changes in the nature of the murmurs belong only to the class of modifications by perversion. This perversion may affect either the *quality*, the soft mellow character, the dry, humid character, or the rhythm. The alterations the respiratory sounds suffer in their *quality* are numerous. There are, in these alterations of *quality*, successive degrees, which lead by a considerable number of gradations, from the most simple to the most elevated forms. They are, as it were, so many degradations of a common type, which recals the sensation of metalic *quality*, and which may be designated by that name. The signs which Laennec has described separately under the names of *cavernous*, *blowing*, *amphoric* respiration, and under that of *metallic tinkling*, all belong to this type. They all give to the ear a sensation of something metallic; only this sensation is produced by each in a different degree: we see them in certain diseases follow one another in order, and sometimes appear in succession from the first shade to the last. From the moment the first shade of bronchial character appears, till amphoric resonance or metallic tinkling strikes the ear, there is an unbroken, but graduated chain; a successive passage from one degree to another, but no change of nature. The following is the scale of these degradations: 1, metallic tinkling: 2, amphoric character; 3, cavernous character; 4, bronchial character; 5,

blowing character; 6, resonant character; 7, clear character. Two physical conditions, either single or united, are found to exist in all cases, where the metallic quality is manifested; viz. condensation of the pulmonary tissue, and increase in the diameter of the air tubes.

Expiratory Murmur.—Augmentation of this murmur occurs under two different forms: in the 1st the normal ratio between the inspiratory and expiratory murmurs is maintained; in the 2nd this ratio is destroyed. In the first case the inspiratory sound has increased in the same proportion as the expiratory; in the second, the inspiratory murmur has remained in its normal state, or has even diminished, while a progressive elevation has taken place in the expiratory. Supplementary respiration is an example of the first; the second is seen in the first stage of phthisis, and in emphysema of the lungs, these being the only affections in which increase of expiration with decrease of inspiration are met with in a high degree; hence the value of this double diagnostic in these two diseases.

After instituting a parallel between the morbid character of the inspiratory and expiratory murmurs, our author next goes on to consider the relations, physiological and morbid, between the respiratory murmurs and movements. This point he endeavoured to ascertain by physiological and clinical experiments. From these, he felt himself warranted in inferring that there exists between these three facts—1st, the intensity and duration of the respiratory murmur; 2, the frequency and extent of the thoracic movements; 3, the degree of the expansive and locomotive force of the lung—so intimate a connexion, that the derangements of one necessarily re-act on the other, and hence, that we may, from those derangements that can be seen or heard, appreciate those that cannot directly be observed during the patient's life. The connexion, however between these three facts is far from being as general or absolute in pathology as in physiology.

After considering the morbid characters of the voice and cough, in which part of his work he introduces some modifications of the opinions of Laennec, he next enters into the subject of *Exaggerated Respiration*, sometimes called supplementary respiration, and by Laennec the puerile respiration. The character of exaggerated respiration is a pure and simple increase of the inspiratory and expiratory murmurs, an increase which affects both the intensity and duration of these sounds. The increase in expiration is proportionately greater than in inspiration. The inspiratory murmur, whose normal number is 10, may rise to 12 and 15; the expiratory may attain the same elevation. Under certain circumstances exaggerated respiration may be confounded with certain morbid forms of respiration, whose diagnostic import is quite different. These circumstances are the following:—

1. The increase of expiration that takes place in the first stage of phthisis may be mistaken for mere exaggerated respiration; the following characters will distinguish them:

In supplementary respiration, the increase in inspiration affects both the duration and intensity of the sound—in phthisis, the intensity alone is augmented, and in general the duration is diminished. In the first, the number that marks expiration never exceeds that of inspiration—this often

happens in the second. In the inspiration and expiration of phthisis, the character of augmentation is combined with a certain roughness, hardness, and dryness, which are quite foreign to exaggerated respiration. In the first stage of phthisis the bronchial character is sometimes preceded by a slight shade of metalic *quality;* but this does not show itself in inspiration till after it has co-existed with expiration, whereas the slight clear *quality* of supplementary respiration appears at once in both murmurs. When the alterations of *quality*, which belong to the first stage of phthisis, exist in both inspiration and expiration, they have become too well marked to be confounded with the slight shade of clear *quality* of exaggerated respiration. Besides, in phthisis, the alterations of *quality* continually tend to increase in intensity; in supplementary respiration the clear quality we have mentioned remains always the same. An obscure or dull sound on percussion usually accompanies the respiration of a tuberculized lung; in supplementary respiration the sound is rather increased than diminished. In the first, the usual seat of the morbid characters is the top of the lung; they are localized below the clavicle—this localization is very rare in the other.

2. In emphysema of the lungs thereis also increase of expiration, as in exaggerated respiration; but these two morbid states differ essentially in other respects:—in emphysema, the inspiration is diminished at the same time that the expiration is increased. With these characters is joined that of harshness and dryness. The sound on percussion is almost tympanitic.

3. Between exaggerated respiration, and rather strong natural respiration in the adult, there is this difference; that, in the latter, expiration has at the most increased only 1, 2, or 3 degrees, that respiration is the same in all parts of the chest, and that there is not the co-existence of any morbid phenomenon—whilst in the former these circumstances are reversed. The circumstances which may produce exaggerated respiration are, 1st, nervous influence; 2d, external physical influence; and 3d, internal physical influences, which, generally speaking, are organic alterations. In this form of respiration, inspiration returns to its normal state sooner than expiration. This is conformable to the author's general principle, that in all kinds of morbid respiration, when the expiratory murmur is increased, it returns to its normal state more slowly than the inspiratory.

We now come to the description of a sound quite distinct from all those hitherto described—this sound he calls the *pulmonary crumpling sound.* Its general character is, that it gives the ear the sensation of squeezing or crumpling. "It seems," he says, "as if the eye, receiving the same impression as the ear, saw the pulmonary tissue struggling with effort and with noise against the obstacle which obstructs its expansion. This sound, though sometimes very perceptible, seldom extends beyond the point where it is generated. It generally co-exists with inspiration alone; sometimes however it is heard during inspiration and expiration, but more marked in the former. With respect to the diseases in which this pulmonary crumpling sound appears, he has as yet discovered only in the three following circumstances:—1st, in a woman, whose lungs were compressed by a large encephaloid tumour seated in the anterior

mediastinum. 2. In a patient, in whom there was found a very large non-tuberculous cavity, containing only air, and bounded superficially by walls two or three lines thick, firm, flexible, and resembling perfectly a piece of leather of the same thickness; in this case the crumpling sound, which was very intense, was produced by the to and fro motion of this wall, caused by the passing of the air in and out of the cavity; in this case too, the sound was heard both in inspiration and expiration. And 3dly. This sound is heard chiefly in the first stage of phthisis. With respect to the site of this sound, it is wherever the anatomical conditions necessary for its production exist; in phthisis it exists at the tops of the lungs only; most usually in front below the clavicle, sometimes behind in the supra-spinal fossa. The anatomical conditions necessary for the production of the crumpling sound, are the following: 1st, a mechanical obstacle to the expansion of the lung; 2, lobular induration of the pulmonary tissue; 3, alternate flapping to and fro of a thick and dense lamina of fibrous tissue. The author found this sound to exist in about one-eighth of the cases of phthisis, in which he noted the physical signs; he accounts for the smallness of this number from the circumstance, that as it exists only during a limited period, it is unobserved in several cases.

With respect to the differential diagnosis of this sound, the phenomenon with which it may be most easily confounded is the dry crackling ronchus, as there are several points of analogy between them; the crackling ronchus however is infinitely more frequent than the crumpling sound, and the impression it makes on the ear is altogether different. The pleuritic friction sound might more easily be mistaken for the pulmonary crumpling. He gives the following as the distinguishing characters: the latter is continuous; in listening to it, the ear feels no sensation of displacement, it is produced, almost exclusively, in the top of the lung; it co-exists with the signs of the earliest stage of phthisis; the patient has usually no sensation from it; the hand cannot appreciate it, and it exists almost exclusively in inspiration. The pleuritic friction sound, on the contrary, is composed of little jerks or shocks; the ear receives the sensation of displacement from above downwards, and from below upwards, according as it is heard during inspiration or expiration; it almost always co-exists with both periods of respiration; it is usually produced in a part (the middle of the posterior part of the chest) where the other is never met; and it is in general appreciable by the hand as well as sensible to the patient.

The next sound to which our attention is directed is the *crackling ronchus, or sound of pulmonary crackling* (râle de craquement, ou bruit de craquement pulmonaire.) The sound differs from all the other *ronchi*. On its first appearance it bears and deserves the name of the *dry crackling ronchus;* after it changes perceptibly to a *humid crackling*, so as to become a mere mucous ronchus; and eventually it becomes the gurgling ronchus. This ronchus is formed by a succession of small sounds; each of these is a crack, and it is the sum of these sounds during one of the respiratory movements, that constitutes the crackling ronchus. The humid ronchus is also composed of several successive sounds, which gradually assume more the form of bubbles, and in the end they present perfectly the bubbling character. The crackling ronchus is found co-existing with inspi-

ration more exclusively in proportion as it is more dry. As it becomes humid, it is heard in expiration also.

The seat of this crackling ronchus is in general the top of the lung, and if it be heard in points remote from this, it is when the signs of softening, or of a cavity have already appeared in the top of the lung. From what has been said it is sufficiently obvious that this ronchus is characteristic of phthisis: the dry crackling ronchus belongs to that period of the first stage of phthisis, which may be called the second phasis; whilst the humid crackling ronchus belongs to the third phasis, and establishes in some degree the transition from the first stage of the disease to the second. From this it appears that the dry crackling ronchus is not the first symptom that appears in phthisis: several of the modifications in duration of the respiratory murmurs precede it.

The anatomical conditions on which the crackling ronchi depend may be thus summed up: the dry crackling ronchus corresponds to that phasis of the first period of phthisis, which is represented by a simple infiltration of crude tubercles into the pulmonary tissue; the humid crackling ronchus appears to be, in its different phasis, the exact symptomatic representative of the process of softening which gradually pervades the crude tubercles.

M. Fournet next describes the *humid ronchus with continuous bubbles*, which he has observed to be a prominent sign of *active sanguineous congestion of the lungs*, in which pathological state the diagnostic value of this sign he has found to be very great. He then proceeds to the description of the pleuritic friction sounds, which want of space on our part, as well as want of entire novelty on their part, prevent us from noticing more in detail.

In Chap. III.—The course and connexion of the sonorous phenomena, their relative value, and their different combinations are pointed out very clearly; in this part of the work also œgophony, bronchophony, and pectoriloquy, instead of being three different phenomena, are shown to be but three successive degrees of the same phenomena. The same is proved of the different morbid sounds that compose the class of alterations of *quality*.

In Chap. IV. we are presented with a classification of the sonorous phenomena, physiological and morbid, of the respiratory apparatus, and with separate tables of the healthy and morbid sounds. Also with a plan of a classification of the several kinds of ronchi founded on their respective characters.

In Chap. V. the author considers the laws of co-existence of the morbid sonorous phenomena of the respiratory system with inspiration or expiration. In these laws will be found a number of differential characters extremely useful in practice. Certain sounds of very different diagnostic value, are sometimes confounded with one another in many respects, and are distinguished by this character, viz. that some co-exist with both periods of respiration, whilst others co-exist with one only; such are, for instance, the humid bronchial ronchi, compared with the vesicular ronchi;

whilst there are other signs, which, appearing first in expiration, and not extending till later to inspiration, enable us in this way to estimate the progress of the disease; such are the alterations of *quality*. The constancy, for the most part, of the laws of co-existence of the sonorous morbid phenomena with this or that period of respiration, gives, in general, considerable value to the signs derived from this source. This idea however of employing this method of diagnosis is by no means a new one. Several pathologists have already made allusion to it.

Chap. VI. contains the characters presented by the inspiratory and expiratory murmurs in each of the diseases of the respiratory system considered separately. As this chapter contains several points of a practical bearing, we shall give a succinct summary of it. In this part of his work the author introduces numerous changes in the symptomatology of pulmonary diseases, as given by Laennec; these changes he considers to be perfectly borne out and fully sanctioned by the peculiar method adopted by him in the study of auscultation.

ART. I. DISEASES OF THE BRONCHI.

Acute Bronchitis of the large Bronchial Tubes.—First Stage.—1. Increase of the intensity and duration of the inspiratory and expiratory murmurs, easily recognized, wherever the sonorous and sibilant ronchi are not heard, the increase being greater in the expiratory than in the inspiratory murmur.

2. A little dryness and hardness of both murmurs.

3. Dry bronchial ronchi, both acute and grave, but especially the latter, and heard chiefly in expiration.

Second Stage.—1. Exaggeration of the respiratory murmurs not carried quite so far.

2. The humid and viscid character taking the place of the dry one.

3. Humid bronchial ronchi, bubbles growing larger and larger.

Chronic Bronchitis.—1*st, with increased mucous secretion.*—1. Slight decrease of the duration, and still more of the intensity of the inspiratory murmur; increase of both the intensity and duration of the expiratory.

2. Difficulty of production in the inspiratory and expiratory murmurs, especially the former.

3. Humid character of these murmurs.

4. Humid or mucous bronchial ronchi with large bubbles.

2*nd. Chronic Bronchitis, with decrease or suspension of the mucous secretion.*—1 Sometimes a great decrease of the inspiratory and expiratory murmurs, which may fall as low as 1.

2. Character of difficulty of production in both murmurs; character of dryness and hardness.

3. Dry bronchial ronchi, equally audible during both periods of respiration.

Dilatation of the Bronchi.—1. Decrease in the intensity and duration of the inspiratory murmur, which may fall to 6 or even to 5. Increase of intensity and duration of the expiratory, which may rise to 12 and 15.

2. All the alterations of quality, from the simple degree of clearness up to the cavernous character, appear in succession, and extend from expiration to inspiration, in proportion as the disease passes from its earliest to its most perfect forms.

3. All the humid bubbling ronchi comprised between the simple mucous ronchus and the cavernous ronchus.

4. Voice bronchophonous or pectoriloquous.

5. Bronchial or cavernous cough.

ART. II.—DISEASES OF THE PULMONARY TISSUE.

Pulmonary Emphysema.—The author denies Laennec's accuracy in setting down the friction sound of ascent and descent, and the dry crepitant ronchus with large bubbles as pathognomonic of inter-lobular emphysema, there being, according to him, no symptomatic difference whatever between this and the vesicular form of the affection.

1. Gradual dimunition of the inspiratory murmur from 10 to 2, or even 1, affecting both its intensity and duration, with considerable increase of the intensity, and still more of the duration of the expiratory murmur, from 2 to 10, 15, 18, 20.

2. Character of roughness, hardness, difficulty and dryness in both respiratory murmurs.

3. Dry bronchial ronchi, both grave and acute.

4. The transmission of the voice, cough, and of the sounds of the heart through the emphysematous tissue of the lung, more imperfect than in the normal state, and inversely as the degree of the emphysema.

5. Increase of the normal resonance on percussion, with a somewhat tympanitic character in the sound.

6. Dimunition of the normal thoracic vibration, as perceived by means of the hand applied to the chest, whilst a person speaks.

7. Rounded form of the chest.

8. Inspiration, abrupt and short, produced by a kind of convulsive movement, in which the entire thorax, as a single piece, is forcibly elevated, the infero-lateral parts of the chest almost alone affecting the movement of dilatation; more or less depression of the supra-sternal fossa and supra-clavicular regions—the mean duration of the movement may be represented by 3.

Expiration seems to be nothing more than relaxation of the muscles previously violently contracted; it is produced by the gradual sinking in of the thorax—its mean duration is 9.

Almost complete abolition of the partial movements of the chest, (movements by which the ribs are separated and approximated,) which no longer moves, either in inspiration or expiration, except by a motion of the whole.

We shall now pass on to the signs of *phthisis pulmonalis* in its first stage, as furnished by auscultation, percussion, &c.

1. Dimunition of the duration and intensity, but especially of the duration of the inspiratory murmur, which may fall to 4 and even 2.

2. Augmentation of the intensity and duration of the expiratory murmur, which may rise even to 20.

3. Rough, hard, dry, difficult character in the murmurs, but especially in the inspiratory.

4. Alterations of *quality*, appearing first in expiration, spreading afterwards to inspiration, preserving greater intensity in the former, and passing successively through all the alterations of *quality*, from the clear to the amphoric character.

5. Pulmonary crumpling murmur or ronchus, co-existing almost exclusively with inspiration.

6. Dry crackling ronchus, co-existing almost exclusively with inspiration, and passing successively into the humid crackling, the cavernulous and cavernous ronchi, which occupy more and more equally both inspiration and expiration.

7. Bronchophony more or less intense.

8. Bronchial cough more or less marked.

9. Transmissions of the sounds of the heart through the tuburculated parts of the lung.

10. Sound on percussion over this part more obscure.

11. Diminished vocal vibration.

12. Dimunition of the partial movements of the upper parts of the chest; dimunition of their volume; sinking in of the spaces above and below the clavicle.

We shall here close our notice of this work, not, however without expressing our entire satisfaction with the talent and industry displayed by M. Fournet in his clinical researches into a class of diseases, to a complete knowledge of which much is still wanting, notwithstanding the very successful labours of so many distinguished pathologists in this field of science. By directing attention to the two murmurs of respiration he has we feel done good service to the cause of thoracic pathology; one of the first fruits of which will we doubt not be, the power of diagnosticating phthisis pulmonalis, at a much earlier period of this destructive disease than was hitherto practicable.

To Dr. Brady the profession is not a little indebted for his very elegant translation of the work. The style is chaste and classic; and the manner in which the doctor has performed his task, proves him to be perfect master of his subject. We trust that he will ere long favour his medical brethren with the second part.

ON THE TREATMENT OF STONE IN THE BLADDER, BY MEDICAL AND MECHANICAL MEANS. By *R. Willis*, M.D. of the Royal College of Physicians, Physician to the Royal Infirmary for Children, &c. London, H. Baillière, pp. 183. 184 2

DR. WILLIS shews but a dull picture of lithotomy. The brilliancy, he says, of the procedure apparently has dazzled both the operator and spectator, and disastrous consequences in unfortunate cases have always been merged in the temporal redemption that is achieved for the sufferer in those that prove successful. But of all of every age and sex who submit to lithotomy one in seven or eight will inevitably be lost immediately, and among those who are in years when the life of man is most truly precious, one at least in three or four will fall its victim. This is, no doubt, pretty true, discouraging as it may be. But what says Dr. Willis of lithotrity? Nothing flattering. This, he tells us, is beyond all question a rotten staff, which leaned upon by all who suffer from stone will certainly fail five-sixths of the number; nearly one-half will find that it is totally inapplicable to their case; from one-third to one-fourth will fall immediate victims to its determined application; and from one-third to one-fourth will escape to lead miserable lives from diseased bladder, and then to die of diseased kidneys; not more than one in three or four of all who were held favourable subjects will find it a safe, effectual, and final remedy for their disease. The public and professional mind has been singularly abused in regard to the value of lithotrity as a general means of treating stone in the bladder.

Although we believe that the success of lithotrity has been greatly overrated, still we would not venture to lay down its statistics so confidently as Dr. Willis. The data have hardly been acquired for any such positive conclusions.

However, Dr. Willis does not leave us with this gloomy prospect. The following remarks are of a more encouraging description.

"Conviction of these truths has lately led physicians back to the long neglected class of medicines called *Lithontriptics*, and there is already evidence enough extant to satisfy us that these medicines, taken internally and used in the way of injection, have even greater powers than were suspected in the palmy days of their employment some century ago.

But lithontriptics, like all other medicines, have no more than a certain limited range of power; and supposing them to fail, and manual interference to become indispensable that the sufferer from stone may have a chance for his life, have we no resource but lithotomy as the general and lithotrity as the exceptional rule? I believe that we possess an almost unfailing refuge in the operation which I have described under the title of LITHECTASY. By this procedure the brilliancy of the operation by which a stone is now generally extracted from the bladder will be gone; but the life of the patient will be safe; and this surely is the end which all who are engaged in the practice of medicine as an art, or who are striving to advance it as a science have in view. Surgical operations generally have been becoming less frequent and less dangerous, ever since the Revival of Letters in Europe. I believe that by the judicious use of lithontriptic medicines, and the adoption of lithectasy, they may be made both much less frequent and infinitely

less dangerous than they have yet been found in reference to the treatment of stone in particular." vi.

The first Chapter of the Work before us is on the REMOVAL OF STONE BY SOLUTION. Dr. Willis mingles in an amusing manner argument and history. The following passage contains, perhaps, the largest infusion of the former.

"The alkalis when first propounded as of sovereign efficacy in calculous complaints, were exhibited either in the state of subcarbonate or pure. This implies administration in a large quantity of fluid; and then the conditions were fulfilled which were necessary to the best effects of these medicines. The concurring testimony of all the best authorities of the times gives us assurance of the signal benefit that was often derived from the use of Stephen's medicines, as well as from those of her immediate successors. Stephen's remedy consisted especially of a mixture of calcined egg shells and Castile soap, which was always washed down with copious draughts of some simple vegetable infusion or decoction. The lithontriptics of all the medical practitioners of the same period were of the same essential nature. The ingenious Dr. Whytt, who enjoyed an extensive reputation for his treatment of calculous complaints, relied upon about an ounce of Castile soap and two or three pints of lime-water in the course of the twenty-four hours. Dr. Chittick, a less ingenious man than Whytt, though ingenious enough in his way, and who had a large share of the metropolitan practice in cases of gravel and stone, had a tin vessel of the capacity of two quarts filled with weak veal-broth sent to his house every morning for medicamentation, and this quantity of diluent with some solution of potash added to it, was the dose which each of his patients took during the day.

Now, provided the stomach did not rebel against a course of this kind, we are certain, as chemists and physiologists, that it was calculated to act beneficially in a large proportion of cases of stone; in all cases, to wit, in which calculi of lithic acid, of the lithate of ammonia, and, as recent experience has shown, of the triple or mixed phosphates are contained in the bladder. The oxalate of lime calculus, indeed, is the only one upon which the urinous solution of the neutral carbonate of potash or soda thus brought into contact with it must not have had a decided action in the way of solvent or disintegrator.—There is, perhaps, no fact in therapeutics better established on the basis of experience than the influence of weak alkaline solutions upon the matter composing the generality of urinary concretions; and I cannot therefore but hold it a grave error to suppose that the healthy urine is of itself as powerful a solvent of stone in the bladder as any we possess. The most healthy urine always contains a certain proportion of matter so highly concrescible that it will infallibly be precipitated in the solid form if it but meet with a point on which to rest. Qualities, on the contrary, can readily be communicated to the urine by the use of saline and other medicines, that give it positive solvent or disintegrating powers, which, though not of any great force, are nevertheless quite decided, and have only to be maintained for a sufficient length of time to prove of signal efficacy in the end.

Much good, then, was done during the period that alkaline medicines were administered in this way: some were freed from their calculi entirely, and many more escaped from a life of absolute torture to one of comparative ease; for the alkalis have this most admirable quality in addition to the one they possess as direct solvents of stone, that they allay the irritability of the living tissues with which the foreign body is in contact to such an extent that frequently its presence ceases to be perceived, and the person with a stone in his bladder comes at last to be in little worse plight than another who has nothing of the kind.

The progress of chemistry and pharmacy by and by led to the preparation and prescription of the neutral carbonates and of the bicarbonates instead of the caustic alkalis, as heretofore. In the case of the individual,—the celebrated

anatomist Mascagni,—who first directed particular attention to this modification, it was attended with all the benefits of the old system. Mascagni himself recovered completely from two or three severe attacks of gravel which he endured, and finally gained entire immunity from any recurrence of his disease under the use of the bicarbonate of potash. But he used this medicine in the old way, that is, along with plentiful dilution. The alkaline carbonates and bicarbonates, however, are so mild, so totally without destructive action on the living tissues of the body, that they soon came to be administered in no larger a quantity of water than was necessary to get down the dose; and then they certainly lost a considerable portion of their efficacy." 9.

We must confess that this flattering picture of the effects of the alkalies does not agree in all respects with our experience. So far from their always allaying irritability, we have very frequently found them occasion it. The liquor potassæ will do this more than the carbonates or bicarbonates, but all will not uncommonly give rise to frequent micturition and uneasiness about the bladder. Nor can we be surprised at this when we consider the disposition to irritability of the bladder occasioned by neutral or alkaline urine.

After a sly hit at the surgeons Dr. Willis makes these remarks:—"To say nothing of the doubt that has always hung around their efficiency and practical applicability, the medical means we possess of attacking stone in the bladder are very slow in their effects; and all know how difficult it is to manage the generality of patients in cases where perseverance is indispensable, and where the result has to be looked forward to at a distant date. In the present time, too, the generality of practitioners are but indifferently acquainted with urinary pathology,—the subject is one that is little studied; or they have no confidence in lithontriptic medicines. The surgeon, indeed, may be little or no better provided than the physician in the important article of the particular pathological knowledge that is necessary here, but he has sounds, and catheters, and lithontriptors and scalpels at hand, and in these he has unlimited faith." We think that this is a little too smart to be perfectly correct We conceive that it is hardly accurate to say that urinary pathology is little studied. Nor is the faith of the surgeon in his tools unlimited. Quite the contrary. The dangers of lithotomy have always been admitted, sometimes even exaggerated. It is not that too much faith is extended to the operation, but that little is placed in lithontriptic medicines.

The revival of experiments and hopes on this subject has been due to France. In a short essay, observes our author, on the mineral waters of Vichy, published in one of the volumes of the Annales de Chimie for 1826, M. Darcet called the attention of professional men to the property which these waters have of rendering the urine of the drinker alkaline, and to the advantage that might be taken of this circumstance in the treatment of stone in the bladder. He found that from three to four glasses of this mineral water, which contains about fifteen grains of the bicarbonate of soda per glass, taken in the course of the twenty-four hours, sufficed to maintain the urine in an alkaline state. M. Darcet remarked further, that the urine of those who drank the Vichy water was singularly transparent, though the portion which was secreted during the night was often high coloured; and, contrary to wont, that it even continued limpid after putrefaction had made great progress.

Dr. Charles Petit and M. Patissier followed up the investigations of M. Darcet, and presented cases and considerations on the same side. Dr. Willis observes :—

"It is very generally agreed that fragments of urinary calculi of the lithic acid and lithate of ammonia, and of the mixed and triple phosphates, are speedily reduced in size by solution and disentegration when exposed to the action of the Vichy water out of the body; and it seems also undeniable that several persons in whose bladders the presence of calculi had been ascertained by searching, had them either notably reduced in size, or got rid of them entirely, all the symptoms of stone being at the same time relieved or removed whilst using this water internally.

Much about the time that Dr. Petit appeared as the advocate of the waters of Vichy, M. Robiquet, in a paper read before the Royal Academy of Medicine of Paris, (1836,) adduced several instances of the successful exhibition of the bicarbonates of potash and soda, aided by plentiful dilution, in cases of stone in the bladder, patients finally passing the kernels of calculi which had formerly been too large to enter the neck of the bladder, and to get rid of which the operation of lithotomy had been proposed.

The range of cases in which the alkaline carbonates were found to be useful was also greatly extended by the experiments of these various inquirers, particularly of Dr. Petit and M. Chevallier. It had long been generally allowed that weak solutions of the vegetable and mineral alkalis in the state of carbonate exerted more or less of a solvent effect upon calculi of the lithic acid; but it was hardly suspected that these substances had fully as much power over concretions of the phosphates, not, however, in the way of solvents, but of disintegrators, the alkali seizing upon the animal matter, which is a principal bond of union in the great majority of urinary calculi, and the particles of earthy salt then separating and subsiding in the shape of an amorphous powder. M. Darcet, in the course of his experiments, found that even so solid a substance as a *bone*, exposed for a length of time to a solution of bicarbonate of soda in distilled water, was at last completely disintegrated; a solution of gelatin,—a gelatinate of soda,—composing the supernatant liquor, the earthy matter—phosphate mixed with a little carbonate of lime,—forming the powdery precipitate which lay at the bottom of the vessel. Dr. Petit found that calculi of the mixed and triple phosphates, exposed to the action of the Vichy water, actually suffered in many instances a more rapid loss of weight than those of lithic acid or the lithates." 15.

Much opposition and altercation seem to have been going on in Paris between the lithotritists and the stone-dissolvers. The quarrel may be a pretty one, but we need not be a party to it. The Royal Academy of Medicine issued a commission to examine into the operation of the Vichy Waters. They presented their report, from which the following conclusions are taken: "1st. Urinary concretions are attacked by the urine when it has been rendered alkaline by the use of the Vichy water taken internally and used in the way of bath; 2nd. It has not been proved that urinary concretions of such a size as to constitute proper calculi, have been entirely removed by these waters; 3rd. Such a removal is nowise impossible; there is even considerable likelihood of its being accomplished; 4th. The question can only be decided by experiment; 5th. The experiment does not seem to present any danger. The committee therefore request the minister of the public works, &c. to accede to the demand of M. Petit," which was to the effect that he might have a certain number of patients affected with stone in the bladder confided to his care at Vichy,

with a view to decide the question as to the power or impotency of the natural alkaline waters in this disease.

Dr. Willis quotes nine cases more or less favourable to the action of the Vichy waters. The ninth is the most striking, and we shall confine ourselves to it.

Case.—D. B. Jacob, aged 53, entered the Hôpital Beaujon, on the 28th of August, 1838, labouring under stone in the bladder, which had tortured him for several years. A fortnight after his admission, lithotrity was attempted; the stone was seized several times, and splinters were detached, for many pieces were voided on the day of the operation; but acute inflammation of the bladder having supervened, no second operation could be attempted. Even on the 20th of October the patient was extremely ill, complaining of great weakness, of inappetence, and of a fixed and severe pain in the hypogastric region. The excretion of the urine was frequent and painful, and the fluid deposited a great quantity of purulent and glairy matter.

On the 20th of October the patient was put upon the use of the Vichy water in the dose of from a bottle and a half to two bottles a day; almost immediately the urine became less turbid, the appetite and the strengh revived, and by the 5th of December he felt himself so much better that he insisted on quitting the hospital.

On the 8th of March the patient returned to the Hôpital Beaujon with a renewal of his calculous symptoms. On the bladder being searched a stone was readily struck. He was ordered the Vichy water for the second time; but none could be had before the 18th. The course once began, however, was continued to the 18th of June, the date at which Jacob was visited by the members of a committee of the Royal Academy of Medicine, for the purpose of being examined previously to his being sent to Vichy at the public expense. The stone in the bladder was caught nine different times by means of a lithometer; the greatest diameter ascertained was seventeen lines and a half, the smallest seven lines (rather more than one inch English in length, by something more than half an inch English in breadth or thickness.)

Placed under the care of Dr. Petit at Vichy in the season of 1839, the patient proved refractory and only followed the treatment prescribed for him very irregularly. Nevertheless, when he was examined on the 30th of September by the committee, the longest ascertained diameter of the stone was but fourteen lines; the smallest eight lines and a half.

Previously to being remanded in the season of 1840, the stone in this patient's bladder, was repeatedly seized by a committee consisting of Messrs. Civiale, Blandin, and Berard, and ascertained to be of the diameters of 13, 14, and 15 lines. The treatment by the Vichy waters, begun on the 23d of June, 1840, was pursued with great regularity to the middle of September, the patient taking from 12 to 25 glasses of the water and a bath daily, and in addition having a stream of water sent through his bladder by means of a double-current catheter, once, twice, and even thrice a day for some considerable time. In the beginning of August the patient began to pass fragments of his stone, and at the same time he obtained complete relief from his sufferings. On the 18th of September he was

sent back to Paris, where, having been sounded on two different occasions by the several members of the committee, it was formally declared that there was no longer any stone in the bladder.

It must be admitted that this is a strong case. Still some fallacy is possible, for the history of stone in the bladder contains cases in which the cure has appeared to be complete, and yet the stone has been present. Sounding is not always a conclusive operation.

Dr. Willis next argues the question chemically. Two objections are constantly raised to the use of alkaline or any other kind of internal medicine in cases of calculus; first, that much valuable time is lost in their administration; and second, that the alkalies especially, far from dissolving or disintegrating urinary calculi, tend rather to cause precipitation from the urine, or at most to change one diathesis into another.

But, says our author, the first objection is founded on the presumed inefficacy of internal remedies generally in cases of stone. And this he disputes.

"The second objection, that the alkalis, far from dissolving urinary concretions, tend rather to cause precipitation from the urine, and to change one calculous diathesis into another, is one that is now of ancient date, that originated in a groundless assumption, and that has been answered over and over again. Urinary calculi of the lithic acid, the most common calculi of all, exposed to the contact of a solution of an alkaline carbonate, or bicarbonate, however weak, are necessarily and in the nature of things acted upon and decompounded. A new salt is formed of sparing solubility, indeed, but still soluble, and the animal matter which formed a principal bond of union between the integral particles of the calculus being greedily abstracted by the alkali, these particles fall away from one another, and the stone becomes powder.

As to the change of diathesis, this too is a mere assumption; nay it is more, it is an error, the alkaline mineral waters and attenuated solutions of the fixed alkaline carbonates have no such power as to cause a deposition from the urine of either the phosphate or carbonate of lime, of the urate of soda, or of the triple phosphate of magnesia and ammonia. The urine of every one who makes habitual use of the fixed alkaline carbonates even in large quantity and sufficiently diluted, is remarkable for its brightness and limpidity. The urine of the female whose case Dr. Bostock has recorded, when taking *two ounces and and a half of subcarbonate of soda daily*, was pale and perfectly clear and limpid; and the urine of the drinkers of the Vichy water has been universally remarked for its transparency, a quality which, unlike other urine, it preserves even after it has become highly putrid. More than all this, calculi of the phosphates are attacked by solutions of the fixed alkaline bicarbonates whether prepared by art or presented to us in mineral springs, at least as vigorously as those of the lithic acid." 35.

Dr. Willis goes on to remark, that the bicarbonate of soda in solution, or as it occurs in the Vichy water, is of service in cases of calculus by rendering the urine alkaline. But the alkaline carbonates, whether of soda or potash, are not the only nor perchance the best salts that may be employed in this direction. The neutral citrate, malate, and even tartrate of potash and of soda taken by the mouth render the urine very promptly alkaline, and have precisely the same effect as the carbonate and bicarbonate of the same bases. These neutral salts are in fact decompounded in their transit through the body, making their appearance in the urine in the shape of carbonates, and attacking urinary concretions contained in

the bladder just as the bicarbonates do when administered directly by the mouth. These neutral salts, composed of a vegetable acid and an alkaline base, have this advantage over the bicarbonates, that they do not combine with and render inefficient the natural acid of the stomach, which we now know plays so important a part in the function of digestion; they can therefore be taken for even longer periods than the bicarbonates without weakening the stomach, and without interfering with the changes which the food must undergo in that viscus to be made fit to furnish the body with materials for its growth and nourishment.

Dr. Willis alludes to the borates of potass and soda, but doubts if they exert the same power on the animal matter of calculi as the carbonates. He alludes also to the benzoic acid. He has been assured by Mr. Ure that the uro-benzoic acid, which is found in the urine when benzoic acid is taken, has the power of combining with the earthy phosphates, and forming uro-benzoates of most easy solubility. "By treating," says he, "a small calculus of uric acid alternately with a solution of biborate of soda and of benzoate of ammonia, I certainly found it reduced, dissolved, and disintegrated with singular rapidity; and there can be no doubt of the immediate effect which the benzoic acid and the benzoate of ammonia taken into the stomach have in rendering the urine clear and limpid in cases where it had long been turbid in consequence of depositing the lithic acid and lithate of ammonia. M. Leroy, of Paris, is reported to have used the substances with complete success in a case in which renal calculi of the lithic acid had for a long time been formed in large quantities. I believe them fully competent to prevent the formation of every modification of lithic acid gravel and calculus."

Solution of Stone by Injections into the Bladder.—Dr. Willis has got together several successful, or seemingly successful cases of this sort. One of them he cites as never having been hitherto quoted.

Case.—The patient was a gentleman about 40, in whom symptoms of stone in the bladder and the sufferings that accompany it had been gradually increasing in severity for some considerable time. At length they gained such a degree of intensity that the operation of lithotomy was resolved on; but this having been delayed by the engagements of the surgeon in attendance, Dr. Ritter of Cassel proposed to the patient to try the effect of some of the chemical means that had then recently been propounded by Fourcroy for the solution of the stone. The patient gladly assented, and was forthwith directed on going to bed to take a glassful of a solution of caustic potash in water, of such strength as just excited a feeling of warmth in the mouth, and in the morning, after having made water, to have three ounces of the same solution warmed to 98° Fahr. thrown by means of a catheter into the bladder. After the lapse of an hour and a half, the bladder was emptied. The discharged fluid was found turbid, and seemed to have lost all its alkaline properties; it let fall a considerable deposit of mucus, and on the surface of this a thin stratum of a geryish or yellowish pulverulent precipitate. The injection was repeated in the evening, when another glassful of the alkaline solution was taken by the mouth.

In a few days the strength of the injection was increased; and the patient was in addition placed in a warm alkaline bath every morning for three quarters of an hour. Towards the eighth day of the treatment decided signs of improvement in the patient's state were manifest. The precipitate from the injected fluid, on its being returned, became more and more copious, and without being absolutely sandy, it was still rough to the touch, and had here and there little masses of a bright yellow or reddish colour interspersed through it. In the same proportion as the precipitate increased did all the symptoms of stone diminish. On the 36th day of the treatment, the pulverulent deposit from the injected fluid having ceased entirely, and the patient complaining no longer of pain or uneasiness of any kind, but feeling himself perfectly well every thing was discontinued. The whole of the precipitate collected together weighed two and a half loths, or about one ounce and a quarter avoirdupois. The patient was seen by Dr. Ritter several years afterwards in perfect health, never having had any return of calculous complaint.

Dr. Willis is sanguine on the subject of injections. He seems to anticipate obstacles from the surgeons.

"I see many difficulties, however, in the way of an extensive continued and fair trial of injections for the cure of stone in the bladder. Surgeons, for example, are disinclined to lend themselves to any means for the cure of stone that do not involve an operation; their education and their habits do not generally fit them to appreciate or incline them to confide in chemical remedies; distrusting the powers of these remedies, they reject them untried; they have a means at command in which they place implicit confidence, and they therefore and naturally give this the preference. Physicians again, in the present conventional division of professional labour, have little opportunity to try any means of removing stone; they are seldom consulted independently in stone cases; and then the physician who meddles with any thing *mechanical*—and there is no moving in the treatment of calculus without sounds, &c.—is held as going beyond his province, and is immediately looked upon with jealous eyes, first by his own fraternity, and then by his near kindred the surgeons; so that timidity and the wish to stand well with all, hinder him from profiting by such occasions as he does encounter." 46.

We don't think that this is quite fair to the surgeons. There may be some who look askance at every thing but operations. But there are many who cannot be accused of a fondness for operating. *They*, at all events, are not likely to object to a remedy that dispenses with the knife. Nor do we believe that the education of surgeons is so unchemical as Dr. Willis considers it. They know quite enough of chemistry to appreciate the action of a solvent, and are quite liberal enough to hail its employment with pleasure, if it really *is* calculated to be serviceable. But the well-educated surgeons are cautious and deliberate, and have seen the rise and fall of too many methods, to be charmed out of their prudence by the resuscitation of an old one, or the mere birth of a fresh.

In an Appendix to this chapter, Dr. Willis makes remarks on the composition of injections. He prefers the fixed alkalis. The caustic potass, properly diluted, may be employed. But solutions of the carbonates or bicarbonates of the fixed alkalis, are, however, to be more generally recommended. Their action, if less rapid than that of the caustic alkalis, is of the same kind, and equally certain. Had we a calculus of pure

lithic acid to deal with, a solution of borate of soda or borate of potash would be the best solvent; and this, even in the state of saturation, is not felt as irritating in the slightest degree by the mucous membranes of the body. There is, however, no advantage in employing strong solutions of the carbonates or borates of the alkalis as injections; from three to five grains of the salt to the ounce of water is strong enough.

Among acid injections the best are those that are made with the lactic and nitric acids. According to Dr. Willis, the best of all the methods of using injections into the bladder for the solution of stone is to have a reservoir for the fluid, raised a foot or two above the bed or sofa on which the patient is laid, and to connect this by means of a flexible tube guarded by a stop-cock, with a double-current catheter. In this way, a constant stream of the injection can be kept circulating through the bladder and acting on the stone to the very best advantage. The reservoir should be a double vessel of tinned iron, the outer one being filled with water at from 95° to 98° F. and kept at this temperature by means of a small spirit lamp. There is no necessity for any very rapid current through the bladder.

Calculi of the oxalate of lime must be removed by mechanical means.

The Second Chapter is on the Removal of entire Calculi through the Urethra.

The Third is on Lithotrity. From this we are tempted to extract a rather amusing sketch of M. Civiale.

"To me, indeed, M. Civiale appears to be one of those favoured children of fortune for whom, to use a vulgar phrase, the bowls always run aright; one of those who without speed is nevertheless foremost in the race, who wins the victory or ere the battle be joined. M. Amussat charges a stone in the bladder of a dead subject; his instrument fails him at the very onset, it goes to pieces, and he is disarmed and retires from the struggle. M. Leroy succeeds him, and makes a hole or two in the stone; but it is a tedious business; all present get tired, and the instrument is at length withdrawn, the stone being left behind but little the worse for the encounter. He perseveres, however, he sees the defects of his apparatus; he has the ingenuity necessary to remedy them, and is effectually implemented at length; but he finds no opportunity to try his fortune on the living body for something like a year, and when the opportunity does at last arrive, the circumstances are unfavourable and he fails.

How different the course of the man on whose birth the genius of good luck has waited! He publishes a machine inferior in point of conception to every other already contrived, imperfect to such a degree that it could never have been used; still he proclaims himself ready to take the field, and scarcely has he done so when he finds not one but two, nay three occasions as 'happy prologues to the swelling act' of his final greatness. His own instrument would not have served him indeed, but what signified this? M. Leroy had been sent before by Providence to provide him tools, and to work he went. Of course he succeeded —succeeded signally! In the first case which he encountered the patient was delivered of his stone in two sittings (Jan. 13th, 1824;) in the second case (Feb. 4th) the stone was reduced to powder in four sittings; in the third case (March 4th) it was destroyed with the same ease and expedition.

It was on the strength of these triumphs that Civiale came before the Royal Academy of Sciences, and it was with his mind's eye still dazzled with their

glance that Percy drew up the report to which allusion has been made, in which infinitely more than was his due is awarded to Civiale, and far less than belonged to him by indefeasible right is given to M. Leroy. Civiale had indeed the good luck to find the opportunity of performing the operation on the living subject first; but he contributed nothing to the means by which he triumphed. His boasting in regard to lithotrity must be viewed as of a piece with that of the poor furnace-man, who lights the fire and turns on the steam, and then arrogates to himself the beautiful mechanism of the steam-engine and all the wonders it performs." 90.

Passing over Dr. Willis's history of lithotrity, which is entertaining, we shall confine ourselves to the statistics of the operation, a subject of great consequence and of equal difficulty.

We all know the confidence with which lithotrity was promulgated as a safe, a speedy, and a nearly certain cure for stone. It was heralded as a painless substitute for a most painful operation, and as one of the greatest boons that had ever been conferred on suffering humanity. We did not scruple at the time to express our disbelief, and we noticed some cases which far from supported the statements of the lithotritists. We stood almost alone in our scepticism, and the bulk of the profession gave itself up to delusive expectations of a success which has never been attained. This the data we shall immediately refer to will establish.

Before we proceed to them we would make one observation. Whatever may be a man's honour and veracity, experience would seem to show a singular discrepancy between his own account of his own doings, and that supplied by other people. Without attempting to explain this, it may be admitted as a fact, that medical men would appear not to rise superior to the remainder of the world, nor to claim for their reputed successes a smaller quantity of faith than their neighbours. It is singular, then, what a difference obtains in the records of private and of hospitable practice. Could we trust the parties, the former is the El Dorado of medicine, where desperate cures are constantly accomplished, and a marvellous uniformity of success obtains. This will appear sufficiently in the sequel, if our readers at present entertain any doubts of it.

M. Civiale has had a large practice and a wide experience, nor has he declined to publish the results. In his Traité de l'Affection Calculeuse, p. 613, he speaks of the number of persons affected with calculus who had sought his assistance up to the year 1836. They amounted to 506. Of these 199 were either unfit subjects for lithotrity, or were otherwise prevented from submitting to the operation. Supposing the whole of the 199 to have been really unfit, this would be in the proportion of one in two and a half very nearly, to whom lithotrity held out no chance of relief, or who, were they subjected to the operation, would almost certainly lose their lives. We have, therefore, 307 subjects favourable for the operation. Of these, says M. Civiale, (op. cit. p. 630,) 296 were completely cured; 7 died; 3 were only partially relieved; and in 1 the issue is not known.

This looks well, but some ill-natured persons ventured to doubt if M. Civiale was *quite* so lucky, and they set about inquiring into his cases very pertinaciously.

In a report presented by Barons Larrey and Boyer to the Royal Academy

of Sciences in the month of April, 1831, upon a *compte-rendu* or statement in regard to the patients affected with calculus confided to the care of M. Civiale at the Hôpital Necker, we find it stated with something like a censure that M. Civiale should have confined himself to the mention of five cases in which he had recurred to lithotrity with a success more or less decided; but passed by in silence the patients who underwent the operation of lithotomy (after having been vainly essayed by lithotrity), so that, say the Reporters, "we should have remained in complete ignorance of the fate of these individuals had we not seen the *movement* of the Hospital, which M. the Controller was obliging enough to lay before us. We find," continue the Reporters, "that twenty-four patients (not sixteen, as stated in M. Civiale's compte-rendu) had undergone the operation of lithotrity or lithotomy. Of these twenty-four patients, of whom *six* were cut, [after lithotrity had been essayed in vain,] *eleven* died more or less immediately after the operation."

M. Civiale would seem to play Falstaff backwards—for his men in buckram grew few instead of many. Here then are eleven out of the seven who died.

"Let us go on," says Dr. Willis, "to public document the second. This is a report to the Royal Academy of Sciences presented by Messrs. Boyer, Double, and Larrey, upon the operations performed at the Hôpital Necker during the years 1831 and 1832. 'Fifty-three patients affected with calculus were received at the hospital. Of this number twenty-seven treated by lithotrity were discharged completely cured; sixteen having had various attempts at lithotrity made upon them, the operation was definitely found impossible, or useless, or it proved fatal. Of these sixteen ten died and six remained unrelieved. Eight other patients were subjected to attempts at lithotrity and then to lithotomy; of these five died and three recovered." If we analyze this statement we find fifty-three receptions and twenty-seven recoveries; which is as nearly as possible one recovery in two cases by means of lithotrity; but as three recovered by means of lithotomy after the failure of lithotrity, we have three to add to the list of cures, which therefore amount to thirty in all. On the other side we find ten deaths as immediate consequences of lithotrity, and five more after lithotrity and lithotomy combined, that is fifteen deaths in all. Eight cases remain unrelieved, which must terminate fatally within a brief period, all the more quickly, for the sounding, &c. which the subjects of them doubtless underwent at the Hôpital Necker. *Fifteen* dead, *eight* unrelieved and expecting death, make *twenty-three* cases of non-success to *twenty-seven* of success by lithotrity." 97.

M. Velpeau has pressed M. Civiale even harder. He has furnished an analysis of five series of M. Civiale's cases. Here is the Table.

Series.	Number of Cases.	Cured.	Dead.	Unrelieved, the stone remaining.	Otherwise Success in	Otherwise Failure in
1st.	83	41	39	3	41	42
2nd.	24	13	11	0	13	11
3rd.	53	30	15	8	30	23
4th.	30	18	8	4	18	12
5th.	16	6	7	3	6	10
	206	108	80	18	108	98

"That is to say, of 206 patients operated on, 108 (a very little more than *one in two*) recover immediately; 80, or nearly *one in two and a half* die; and 18 retain the stone, and will be lost. *One hundred and eight cases cured*, to *ninety-eight in which death is immediately induced* or may not be averted within a brief interval of time. This is a very different tale from the one told by M. Civiale himself; the reader may adopt the conclusions of whichsoever of the two statements he pleases. There can be no question as to the one that conveys the truth.

But M. Civiale can readily be convicted of mis-statement out of his own mouth, or by the act of his own pen; indeed it is from the data furnished inadvertently by himself that M. Velpeau has arrived at the conclusions as just given; and whoever will be at the trouble to turn to the work entitled 'Paralele des diverses moyens de traiter les calculeux' will straightway find himself picking his steps over a sort of battle-field. In ten pages of the preface he will meet with a registry of *eight deaths*, and between the 12th and 65th page of the body of the book, no fewer than *fourteen failures* make their appearance,—twice, in a single page, there are records of two disasters." 99.

Dr. Willis proceeds with much charity and good nature to explain, as a trifling slip of memory, these little inaccuracies of M. Civiale.

"All the cases," he observes, "in which the process is essayed, but unsuccessfully, in which one or two or even three attempts have been made to seize and perforate the stone, and even in which it has been seized and perforated once or twice, but in which it is found impossible to proceed in consequence of pain, of inflammation excited in the bladder, &c. &c.—all such cases are thrown out of the account; *in them lithotrity was not performed;* those that die under these circumstances, *die before the operation*, or from some other cause than the operation. Where men are deeply interested, where they think their reputation is at stake, they deceive themselves, and then they try to deceive others. So respectable a surgeon as Mr. Martineau, who prided himself on his success as a lithotomist, thought that he did not select his patients. 'In this number' (eighty-four cases in which he had performed lithotomy), he states that 'no selection of patients was made, as I never rejected any one who was brought for operation' (Med. Chir. Trans. vol. xi. p. 409.) But what is the language of his contemporaries? Let us consult Mr. Crosse: 'During the many years that I witnessed Mr. Martineau's public practice, he carefully selected his patients;' (On Urinary Calculus, p. 155.) Unless he had a great chance of success, therefore he never ran the risk of failure. In charity we must presume that it is the same with M. Civiale, although candour also compels us to admit that however emphatically warned he will not consent to be set right." 100.

This seems at first sight unaccountable. But the truth is it would be very inconvenient to be set right. The real statistics would not look so well in print, would not attract *good* patients. There's the rub. Dr. Willis quotes a case in point from M. Civiale.

Case.—M. Bizouard, aged 65, though he had long suffered from symptoms of stone, had such a dread of every thing in the shape of a surgical operation, that it was only when fairly vanquished by his sufferings that he would consent to have his bladder searched. This being done at length by M. Hervez de Chegoin, a stone was struck. M. Civiale being called in a few days afterwards, ascertained without any difficulty that the bladder contained a foreign body,—of about the size of a large walnut. The urethra was sensibly contracted below the pubic arch, and the prostate was larger than natural. Some preliminary treatment, the necessity for which

was indicated by the character of the patient and the irritability of the parts, was then had recourse to. "*An exploration of the bladder made by means of the instruments of lithotrity*," says M. Civiale, "convinced me subsequently that it would be an extremely difficult matter to crush the stone, in consequence of its size, the enlargement of the prostate, the small capacity of the bladder, and the general irritability of the subject. *This perquisition was long and painful. It was followed by a little fever, difficulty in making water, &c.—These accidents never subsided.* Lithotomy was proposed to the patient as his only resource. A consultation was therefore called, and lithotomy was determined on. The day was fixed, the patient had the perineum shaved, he was laid on his bed, and the sound was passed as the first step in the operation, but no stone could be discovered. It was searched for in vain by more than one experienced hand; the patient had to be put to bed again. Inflammation of the bladder now set in, and the patient died four days afterwards. Nous trouvons là," continues M. Civiale (l. c. p. 378,) "une preuve éclatante que les explorations practiquées au moyen du cathéter ordinaire peuvent être plus dangereuses que celles pour lesquelles on employe les instuments de lithotritie."

We agree with Dr. Willis that it is rather too bad to lay this death upon the sound. And yet M. Civiale is perhaps right, for as the last drop makes the bucket run over, so the sound settled the business. But before the last drop the bucket must have been full, and the "perquisition" of the bladder made a very complete preparation for the sound. The latter, in fact, was merely the final puff when the flame was flickering.

For a "perquisition," our readers must know, is no joke. Though it is not to be called the operation, it is something so wonderfully like it that the uninitiated cannot distinguish the difference. M. Velpeau's account of it is not bad. "They introduce the litholabe, the lithontriptor or the percutator into the bladder, where its point is moved about to ascertain the existence and the position of the stone. They then open the instrument, its branches are separated to seize or embrace the foreign body, and to appreciate its size and its form. They then endeavour to perforate, to crush, or to fracture the stone by acting on the other and outer end of the instrument, which is thick and straight within the urethra. All this is done once, twice, or three times at intervals of a few days. And now, doubtless, some one will ask, in what the operation properly so called differs from these preliminaries? *Ma foi, je n'en sais rien!*"

It is worth while inquiring what M. Civiale understands by patients who died "without having had any operation performed on them." Such a case was that of Lecomte. The particulars were obtained by M. Velpeau from some private records of the Hôpital Necker, and he dares M. Civiale to dispute them.

"Lecomte had suffered from stone for two years, and had an ample urethra: the intention was to have begun the operation on the 5th of June, 1830. The instrument was passed into the bladder previously injected. Acute pain was experienced in the region of the prostate. Scarcely had the instrument been expanded when the pain became intolerable. The instrument had to be withdrawn before the stone could be attacked. From this time there were incessant calls to micturate, accompanied with tenesmus and excessive pain during the emission of the urine. *Death* on the fifth day afterwards." 103.

It is certainly true that this patient did not fairly undergo the operation

of lithotrity. But it is also true that the operation was attempted, and that the attempt was fatal. Is it honest to exclude such a case as this from the statistics of the operation? There can be but one answer—it is *not* honest.

Now let us look at another class of cases in the list of M. Civiale, that of deaths from lithotomy.

"'Godailler, aged 57, had suffered from stone for three years. The instrument was introduced the 17th April, 1830, and the stone charged with the greatest ease; *the drill was worked.* After this operation the calls to urine became extremely frequent; in the evening the patient had a rigor, and then he was attacked with fever. A second *sitting* took place on the 24th; the febrile paroxysm returned with renewed violence; the urine loaded with mucus acquired a sanguinolent tint. The state of the patient getting worse and worse, he was cut (and died.)" 104.

But according to M. Civiale, he died of lithotomy, not of lithotrity. When such reservations as these are practised, what confidence can be placed in the statements of the man who is proved to be guilty of them? What can we think of M. Civiale's goodly list of cures? No degree of credit can now be attached to them, and we do not envy the position of M. Civiale himself. Sure we are that, in this country, the stain which rests upon his candour would not be esteemed a light one. The moral tone of French society is such that men seem to bear themselves quietly under imputations which would cover them with indelible disgrace here. "Liar," and "rogue," are banded about in the disputes of Parisian surgeons and physicians, as familiarly as household words. And the members of our honourable profession on the other side of the channel appear to receive these flattering epithets with the utmost complaisance.

When we turn from the highly-coloured statements of M. Civiale to the sober statistics of others, we are equally struck with the appearance of truth and the absence of success.

1. M. Velpeau had under his immediate care twelve cases of calculus, in which he performed or attempted to perform lithotrity. In the 1st case, lithotrity had to be abandoned on account of the sufferings of the patient, who remained unrelieved; in the 2d case the patient was cured; in the 3rd he died; in the 4th lithotrity had to be relinquished, after which lithotomy was performed; in the 5th, the operation of lithotrity was also found impracticable, and lithotomy was had recourse to; in the 6th the patient was cured; in the 7th he was also cured; in the 8th he died; in the 9th he was cured; in the 10th, he died; in the 11th, he was cured; in the 12th, lithotrity had to be given up, and lithotomy substituted. Of the 12 cases, consequently,

5 were cured by lithotrity, (not one in two);
in 1 the operation was abandoned, and the patient remained unrelieved;
in 3 lithotrity was given up as impracticable, and the patients were cut and recovered;
and 3 died of the operation.

5 in 12 is *one in two and a quarter*, nearly, in which success follows the operation of lithotrity.

4 in 12 is *one in three* in which lithotrity is unavailable,—the operation cannot be performed.

3 in 12 is *one in four* in which a fatal result ensues.

It is difficult, we think, to dissent from the following inference of Dr. Willis. "The effect of the operation gone on with in the four cases in which it was abandoned may easily be conceived; it were not saying too much to maintain that in the hands of a man committed to the operation of grinding or crushing, four deaths more would have been added to the list of the mortality, when we should have had five recoveries counterbalanced by seven deaths."

2. M. Bancal is a warm advocate of the operation, and the author of "A Practical Manual of Lithotrity." Let those, says Dr. Willis, who imagine that lithotrity is a pleasant pastime rather than a most serious business which often brings life into jeopardy, take the trouble to peruse M. Bancal's cases, and then decide between those who would greatly restrict lithotrity and those who would apply it indiscriminately. Among the particulars of these cases he will find mention made of repeated and violent paroxysms of fever, the sequence of severe pain; of retentions of urine; of inflammations of the testes, and bladder, and knee; of treatments protracted through four months, and relief not obtained after all, &c. &c. Among the fourteen cases he will find that in *one* only could the cure be said to be satisfactory and complete; that in *one* after fourteen operations the patient seemed to be delivered of his stone, but was not cured; that in *four* lithotrity was essayed in vain, but the patients were cut and recovered; that in *four* lithotrity having been essayed, the patients remained unrelieved and would perish; and that in *four* death ensued immediately, or within about a year, from the effects of the operation.

3. "'In a grand total of 1003 patients who have come under the hands of the lithotritrists,' says M. Velpeau, speaking in 1835, '616 only have been delivered of their calculi; and 387 have died or have not been relieved.' Entering into a few particulars, the same excellent writer informs us elsewhere, that 'the patient operated on by M. Civiale at Florence in 1835, was not cured. A merchant of Lyons, a patient from Anjou, another patient from the country, two patients from the department of the Seine and Oise, the husband of a midwife of Paris, a printer, a patient of M. Roux, two patients of mine, a patient of M. Lenoir, Colonel Rankin an Englishman, another personage of the same country, a patient operated on by Mr. Attenburrow, a patient of Mr. Oldknow, a patient of M. Colliex, a patient of Mr. Norris, and others still, all fell victims to lithotrity. It would therefore, I repeat it, be to abuse the public to hold out this operation as free from everything like danger."' 107.

4. In the course of the year 1834, says M. Sanson, there were either five or six (certainly not more than six) operations by lithotrity at the Hôpital Necker. *Two of the subjects of these operations died.* Since the first of January of the present year (1835) three cases of stone have been received into the same establishment. One has died of the operation; the second has been alarmingly ill in consequence of it; the third is perfectly well,—but he has not yet been lithotrized.

5. Of 200 cases of lithotrity, says M. Begin, of which M. Civiale has intelligence, performed at Paris, Bordeaux, Nismes, Avignon, London, Edinburgh, Vienna, Munich, Philadelphia, &c. hardly 100 cures are reckoned.

As Dr. Willis observes, the fatal cases reported are immediately fatal. We have no authentic record of those fatal subsequently. Had we that, lithotrity would wear a still less inviting garb.

6. Mr. Fergusson, has related, in the Edinburgh Medical and Surgical Journal, the particulars of seven cases in which lithotrity was performed. Dr. Willis gives an abridged account of them. This we shall omit, and content ourselves with his comment on them.

"In these seven cases, therefore, we see but two recoveries from stone through the means of lithotrity. One man is delivered of his stone indeed, but he is left with a diseased bladder, which is, if possible, a worse evil than the stone. One is dismissed with his stone in fragments still contained in his bladder, and one dies immediately from the effects of the operation. That is to say, we have as good as three deaths in seven cases; for he who escapes from lithotrity with a diseased bladder dies; and he who is unrelieved of stone by one process, and is left beyond the pale of relief by any other, perishes also. Two are cut, lithotrity having failed, and recover. Two recoveries in seven cases, and each of these achieved at the cost of vast suffering to the patient, and certainly with imminent peril to his life!

Besides these seven cases, Mr. Fergusson had cognizance of many others, in which lithotrity had been performed, but which were less immediately under his own eye than those the details of which he has given. He informs us, however, that out of eighteen cases in which he had known lithotrity to be performed, *six were cured; seven were not cured;* and *five died.* Even in the number of reputed cures, too, there is one case in which there are strong reasons for suspecting a *return* (quere, *a continuance*) *of the disease;* there is a second, in which, though no stone can be felt, 'the patient has suffered almost as much since he was operated on as he did previously to coming under the surgeon's care. Indeed,' continues Mr. Fergusson. '*in two only of these* (*eighteen*) *cases can the operation be said to have been attended with that happy success which has been generally claimed for lithotrity.*'" 113.

7. Dr. Willis next examines twelve cases reported by Mr. Key. These we have, on a former occasion, adverted to more particularly, as indeed we have also to the cases of Dr. Fergusson, and we shall merely notice the brief summary of them furnished by our author.

Of the 12 patients 3 were cured by lithotrity, and 3 after vain attempts by this means, were cut and recovered.

6 died, of whom *one* with abscess in the prostate soon after the operation, *four* with protracted sufferings in consequence of fragments remaining in the bladder, and *one* with disease of the bladder brought on or aggravated by the operation, but whether with any fragments left in its cavity or not was not ascertained. We have consequently *one case in four* cured by lithotrity, and *one case in four* cured by lithotomy, lithotrity having failed; finally, we have *one death in two* of the entire number of patients who were subjected to this means, these patients having all, or with a single exception, been under the hands of one of the most skilful lithotritists of the day; a man who, to his literary and scientific knowledge, the result of a most liberal general and professional education, adds a rare mechanical genius, and a dexterity that was never surpassed.

Those who have witnessed Baron Heurteloup's operations will subscribe unhesitatingly to the above eulogy on his dexterity. But the very fact of that dexterity is the more damnatory of the want of success.

8. Dr. Willis quotes from M. Souberbielle another bill of indictment against lithotrity, made up of these formidable counts.

M. Michali was brought to such a pass by attempts to crush the stone, that when immediate relief became the indispensable condition of present

safety, and M. Souberbielle was brought in for the purpose of cutting him; this eminent lithotomist saw that the patient was lost, and had to decline interfering; the unfortunate Michali, in fact, died the day after that on which it had been proposed to operate.

M. Turgot, having submitted to lithotrity, had his urethra and rectum perforated; he however recovered from the double infirmity under which he laboured, by means of lithotomy, which Dupuytren performed.

M. Petiet, lithotritised by two different hands, had his urethra torn; five abscesses about the perinæum were the consequence; the patient sunk in courage and weakened in body, would not submit to any other measure proposed for his relief, and died with his stone in his bladder.

M. Senecal had the urethra and left corpus cavernosum torn in vain attempts to perform lithotrity; whence infiltration of blood, inflammation, &c.

M. Gasselin, treated fruitlessly by lithotrity, had among other accidents an abscess formed between the upper and anterior wall of the bladder and the abdominal parietes.

M. Cornu died in great pain after nineteen operations of lithotrity; his bladder was violently inflamed.

M. P——, after an attempt to crush his calculus, was seized with inflammation of the bladder, and died in the course of a fortnight.

A veterinary surgeon of Puy-de-Dome, at the inspection of whose body M. Breschet was present, was found to have had his bladder pierced as if by a pinking-iron, whence ensued infiltration of urine, gangrene, and death.

A retired officer of the Imperial Guard, the subject of calculus, but in other respects enjoying good health, was treated by lithotrity, from which he suffered dreadfully. He returned to the bosom of his family, where he died some short time afterwards. On a post-mortem examination, the bladder was found lacerated in several places, and in a state of suppuration.

A counsellor in the court of Besançon came to Paris in 1829, to place himself under the care of M. Souberbielle. He was dissuaded from this, and induced to submit to lithotrity. He died during the process; inflammation of the bladder and peritoneum carried him off in the short period of three days.

Baron Fouché submitted himself to the treatment by means of lithotrity; he died of inflammation of the bladder before it was achieved.

A man named Jean died after the operation of grinding the stone, of acute inflammation of the bladder with mucous discharge.

General Roguet, on the first introduction of the lithontriptor, had the urethra lacerated, and an abscess of the scrotum in consequence. He was cut and recovered.

Mr. H. Chaussier, who, in 1834, had been under treatment by lithotrity for nearly a year (!) had twice had the bladder pinched, and two pieces of the mucous membrane torn off by the instruments.

"I could greatly multiply instances," says M. Souberbielle, "but I do not pretend to write the martyrology of lithotrity. I have besides had occasion to perform lithotomy on upwards of thirty patients who had had lithotrity essayed upon them, more than twenty of these having been under

the hands of M. Civiale. The whole of these patients assured me that they suffered more from a single sitting of the grinding process than from the operation of lithotomy.

I was present at a lithotritic sitting in the house of M. Blanche, performed on a patient who, after the *thirty-sixth operation and fifteen months of treatment*, was not yet delivered of his stone. I am cognizant of another fact which may seem incredible, and where one does not know which to admire most, the courage of the patient or the courage of the surgeon. *Eighty-four operations* were done in this instance in the course of one year and eight months, and the patient was still undelivered. Worn out by the inutility of his sufferings, the patient ended by desiring to have lithotomy performed; this was undertaken by the same attendant, and with the effect of delivering the sufferer effectually, for his shattered frame could endure no more; he died."

We quite agree with Dr. Willis that, formidable as these cases look, they are after all what we might expect. When we consider the amount of irritation which the mere presence of the calculus excites, the severe symptoms that occasionally ensue from the simple operation of sounding, we cannot surely be surprised that the introduction of the large lithotritic instruments, the hunting for the stone, the seizing and crushing it, the sharp fragments into which it is broken, and the repetition of the processes for its removal, should be fraught with dangerous excitement to a mucous membrance in a state, perhaps, allied to chronic inflammation, and connecting by its continuity, the kidney with the organ we are treating so roughly.

Dr. Willis observes—The singular increase of irritation that takes place in consequence even of the *spontaneous* breaking up of calculi in the bladder, a phenomenon which sometimes occurs, and the danger to life that ensues thereon, is strikingly illustrated by the circumstances and the issue of a case which is related by Mr. Liston. A medical man, who had laboured under symptoms of stone for a great many years, and who by sounding himself had ascertained the existence of a stone in his bladder ten years previously, was one day met by Mr. Liston in consultation. In three days after this Mr. Liston was summoned to this unfortunate gentleman in a moribund state, from inflammation of the whole urinary system, his urethra being at the same time blocked up by large fragments of stone. "It appeared," says Mr. Liston, "that on parting with me he had been summoned to an urgent case of labour. He ran quickly down a steep street, and at the bottom was seized with an urgent desire to make water, which he did in small quantity mixed with much blood, and passing some pieces of stone with sharp angles. He became alarmingly ill; went on from bad to worse; had retention of urine from obstruction of the urethra; suppression of urine followed, and death terminated his sufferings in a few days. Many portions of the calculus had been voided; but much of it with the nucleus still occupied the bladder and urinary passage. The kidneys were dark-coloured, and one approached to a gangrenous state."

Dr. Willis sums up by deciding on the case in which lithotrity is admissible. "Lithotrity is admissible, and only admissible, in cases in which the bladder is perfectly healthy, and in which the stone is small,—

of the size of a filbert, a shelled almond, or it may be a nutmeg at the utmost; under all other circumstances it ought to be held impracticable. In other words, lithotrity is admissible where it is estimated that the stone can at one sitting be seized and reduced to fragments of sufficient minuteness to be passed by the urethra. No second, certainly no third operation ought ever to be contemplated. *If the patient who has had lithotrity performed upon him is not relieved at once, he is in imminent danger of losing his life.*"

Perhaps this is laying down the law too authoritatively. We have seen patients recover perfectly well who have submitted to two or three sittings. No doubt the proper case for lithotrity is that of a small stone and a healthy bladder. But it would be going too far to affirm that the sitting must never be repeated.

We think we see in what follows the same disposition on the part of Dr. Willis to pronounce more dogmatically than the evidence warrants on the case for operation.

"Lithotrity, however, *ought* to be an operation without much or any pain; when it is not so, the operation is ill-chosen; it ought not to be attempted if it prove painful. If a patient or his attendant have a doubt as to the fitness of the case for treatment by crushing, and the stone be not large, let the amount of pain in all the preliminary steps of the operation guide them both as to the propriety of proceeding with lithotrity or giving it up. Let the instrument be slowly introduced, and the power of the urethra and prostate to bear the presence of the stiff and straight iron rod be tested for a minute or two. If there be no complaint, the business may be proceeded with; if the sense of uneasy distention and forcing increase and by and by amount to pain, let the instrument be forthwith removed, and the hope of relief from lithotrity be at once abandoned. If no pain ensue, the instrument will then be gently opened, and an effort made to seize the stone; even in doing this there ought to be little pain; no determined effort to seize the calculus should be permitted; the surgeon who makes such an effort under the circumstance contemplated, is false to the trust reposed in him: if the stone cannot be seized readily and at once without suffering to the patient, lithotrity is to be abandoned, the case is not adapted for treatment by its means." 125.

The only way that we know of to determine satisfactorily a question of this kind, is a reference to facts. Unquestionably, then, we have seen cases succeed perfectly in which the lithotritic process has been very painful. Indeed, to speak the truth, we have never seen the lithotritic process which has not been so.

The fourth Chapter is on Lithotomy. Dr. Willis dwells on the importance of a small *incision* and gradual dilatation of the prostate and neck of the bladder. A note on Mr. Martineau is not uninteresting. Mr. Martineau says—

"'Should the stone be large, or there be any difficulty in the extraction, rather than use much force, while the forceps have a firm hold of the stone, I give the handles to an assistant, who is to draw them outwards and upwards, while the part forming the stricture is cut, which is easily done as the broad part of the blade becomes a director to the knife; and rather than lacerate, I have often repeated this enlargement of the inner wound two or three times.'

But observe what Mr. Crosse says in regard to one of Mr. Martineau's operations, in which he held the staff for that distinguished surgeon. 'I distinctly

felt the knife touch the groove of the staff at the second cut; what was farther done with the scalpel was soon accomplished; but I felt convinced *that the prostate gland was only partially divided, and the neck of the bladder not incised;* still the blunt gorget being very conical entered readily; and the staff withdrawn, the operator introduced his fore-finger upon the concavity of the gorget into the bladder, *forcibly dilating its neck*, and touching the stone. After the forceps had grasped the stone, the scalpel was twice employed to enlarge the wound downwards and outwards . . . . . still the stone, weighing an ounce and three quarters, *was not extracted until great force had been applied.*'

This case proved unsuccessful. On inspecting the body of the patient, Mr. Crosse found the prostate divided to above two-thirds of its depth, in a direction backwards and a little outwards. The neck of the bladder was not lacerated, so it must have yielded to allow the large calculus to be extracted, as neither the neck of the bladder nor the posterior portion,—nearly one-third,—of the prostate gland, had been divided in the operation.

In connexion with the same case, Mr. Crosse informs us that, after the blunt gorget was introduced and the staff was withdrawn, Mr. Martineau 'was accustomed to introduce his left forefinger (which was particularly long and large) upon the concavity of the gorget into the bladder, *forcibly dilating the opening and using the finger as a powerful but safe instrument for rendering the neck of the bladder ample to admit the forceps. The force and determination with which the finger was thus used, dilating if not lacerating the remaining undivided portion of the prostate gland and neck of the bladder, I always regarded as a peculiar and intrinsic part of Mr. Martineau's method of operating.*' Mr. Martineau's own description of his operation gives us the idea that he cut every thing which opposed resistance to the issue of the stone. We see that he, in fact, *cut very little and took out the stone by main force*, as all successful lithotomists have done.

I have thought it of great importance to quote this explanation of Mr. Martineau's operation, because an erroneous impression of its nature is all but universal, and has I believe proved highly detrimental to the success of lithotomy in the generality of hands. Dr. Marcet, in his widely circulated work on Calculus Disorders, (1816,) first gave it publicity. He says, (Appendix, p. 193,) 'Mr. Martineau determined to lay aside the cutting gorget *and trust to making a large opening into the bladder with the knife.*' But whoever makes free internal incisions will very certainly not perform lithotomy with the success of Mr. Martineau. We are indebted to Mr. Crosse for telling us what this distinguished surgeon's operation was in fact.

Mr. Crosse himself, after describing the particulars of a case in which, the blunt gorget not having previously been got through the prostatic urethra, 'the forceps were at last, by main force, made to enter the bladder,' and in which 'immense force was used in the extraction of the stone,' states, that he had 'repeatedly known instances of the scalpel not being carried deep enough, and of the prostate gland in consequence being pushed before the blunt gorget, the operator succeeding at length [in getting into the bladder] by *dilating* the prostatic urethra and neck of the bladder; and the result of such cases has brought conviction to my mind that this error is less dangerous than cutting too freely the prostate gland and neck of the bladder. If the surgeon misuse a keen scalpel or cutting gorget, the effects are generally fatal to the patient." 133.

The statistics of lithotomy form a prominent object of attention on the part of Dr. Willis. He has with great diligence, collected and compared a number of published Tables, to the most important of which we shall refer.

1. A very valuable summary of the operations performed in the hospital of Norwich or its neighbourhood is furnished by Mr. Crosse. It presents us with a bird's-eye view of 704 cases. Of these, 387, considerably more than one-half, were children and young persons under 20 years of age, and 35 were women. But here is the Table.

Ages.	Number of Cases.	Number Cured.	Number Dead.
YOUNG PERSONS			
From 1 to 10	281	262	19
—— 11 to 20	106	97	9
ADULTS.			
—— 21 to 40	96	88	8
—— 41 to 60	147	112	35
—— 60 to 80	78	56	22

In the first series the mortality is extremely small, and even in the second it still continues wonderfully low, amounting in the former to 1 in 14$\frac{5}{6}$ths nearly, and in the latter to about 1 in 11$\frac{3}{5}$rds. Up to the age of puberty, the operation for stone by cutting, therefore, appears to be attended with comparatively little danger. Even in the third series of cases—age from 20 to 40—the mortality is little increased; it amounts to 1 in 11 exactly. In the fourth series—age from 40 to 60, the mortality rises rapidly: it amounts to 1 in 4$\frac{1}{5}$th very nearly, and in the fifth series, it is still higher, being about 1 in 3$\frac{3}{4}$ths. The mortality, according to the Norwich data, up to the age of puberty, is about 1 in 12; after 40 it is in the proportion of somewhat more than 1 in 4. The mortality from lithotomy at all ages is in the proportion of 1 to 7$\frac{32}{91}$.

2. In Austria, of 197 cases of calculus which presented themselves 138 were selected as favourable for operation, and 59 were rejected as past relief by this means. Of the 138 who were operated on, 105 recovered and 25 died. This is a mortality of 1 in 5$\frac{1}{2}$ for all ages and sexes even with the selection that was made. (Civiale, Traité de l'Aff. Calc. p. 552.)

3. In Bohemia, of 106 cases of calculus admitted into the hospitals, 60, the majority, were rejected as unfit for operation; only 46 were cut, of whom 38 recovered and 5 died; which gives a mortality in the ratio of 1 in 9 nearly, a very favourable result, and undoubtedly connected with the youth of the great majority of the subjects chosen. Of the 60 who were rejected, 28 were known to have died when the report was made. (Civiale, op. cit. p. 561.)

4. In the Lombardo-Venetian states, of 1104 patients affected with calculus who entered the public hospitals, 1044 were selected as fit for the operation, and 60 were rejected as unfit. Of the number cut 819 recovered and 217 died, which is a mortality of about 1 in 4$\frac{3}{4}$ths for all ages and sexes. (Civiale, op. cit. p. 569.)

5. At the Hôtel Dieu of Paris from 1808 to 1830, 284 patients labouring under stone were admitted. Of this number only 100 were held fit to undergo the operation; and of them 56 recovered and 28 died; the mortality was therefore 1 in 3$\frac{1}{2}$ths for all ages and sexes, in spite of the selection made. Of the 184 who were left to their fate, 133 were known to have died. What makes the extent of the mortality the more remarkable here, is the fact that of the 100 selected for operation 46 were children, 43 adults and only 11 aged; 24 or 25 of the deaths must have occurred among the adults and aged, so that the mortality among them could not have fallen far short of 1 in 2, a result which justifies M. Richerand's estimate of the consequences of lithotomy. (Civiale, op. cit. p. 595.)

6. "Dupuytren in the work on lithotomy which was published after his death has given what must be held as a very valuable and trustworthy document, in the shape of a table, of the results of 356 operations for stone done in Paris and the neighbourhood by different surgeons during a period of ten years, of the whole of which he had kept a register himself. The results with reference to the males, 312 in number, are at once appreciated by the figures of the following Table:—

Ages.	Number of Cases.	Cured	Died.	Ratio of Mortality.
From 3 to 15	97	88	9	1 in 11 nearly
— 15 to 30	59	51	8	1 in $7\frac{3}{8}$
— 30 to 50	45	35	10	1 in $4\frac{1}{2}$
— 50 to 70	74	36	18	1 in $4\frac{1}{9}$
— 70 to 90	37	26	11	1 in $3\frac{4}{11}$
Total	312	236	56	1 in from 5 to 6

The mortality is not quite so favourable here as usual for subjects under the age of puberty; under 30, however, it amounts to 1 in $9\frac{1}{6}$ very nearly; but above 30 it is more than doubled, being as high as 1 in 4 exactly." And Dupuytren concludes that the general mortality of lithotomy is 1 in 5 or 6.

7. Cheselden has given us the particulars of his 213 operations.

Ages.	Number of Cases.	Recovered.	Died.	Ratio of Mortality.
Under 10	105	102	3	1 in 35
11 to 20	62	58	4	1 — $15\frac{1}{2}$
21 — 30	12	9	3	1 — 4
31 — 40	10	8	2	1 — 5
41 — 50	10	8	1	1 — 5
51 — 60	7	3	4	1 — $1\frac{3}{4}$
61 — 70	5	4	1	1 — 5
71 — 80	2	1	1	1 — 2
Total ..	213	193	20	1 in $10\frac{13}{20}$

There are several other tables, no doubt accurate and trustworthy, but the preceding are the main ones. Dr. Willis sums up:—"In estimating the risks from lithotomy, it is obvious, from the whole of the above statements, that AGE is an essential element in the reckoning. The operation, previous to puberty, is a very different affair from what it is after this great epoch in the life of man. Very little information is, in fact, to be gained from statements of the results of the operation for all ages and sexes. It would seem generally to be of little moment who was the surgeon and what the operation: if the majority of subjects be youthful, the success will be considerable,—the mortality may be no more than 1 in 20 or 25; if, on the contrary, the majority of the patients be adult and aged, the mortality will certainly be from 1 in 5 to 1 in 2, according to the period of life." Dr. Willis indeed takes a gloomy view of the operation. For, independently of the usual dangers and disasters, he cites, as of far more consequence, *that* the presence of a stone for a term of years in the bladder is followed in numerous instances by an amount of disturbance in the function, and then of alteration in the structure of the kidneys that as cer-

tainly occasions death as a succession of softening and suppurating tubercles in the lungs. The operation here but fires the mine at once, that would have exploded of itself before long. In other cases, again, the operation is beyond all question the immediate cause of the train of morbid phenomena, having the same general character and tendency, that so frequently follow it.

Dr. Willis having proved, what unfortunately no one can deny, the great fatality of lithotrity and lithotomy, and, certainly, not having underrated either, proceeds to develop his own operation, the agreeable tints of his picture of *that*, contrasting remarkably with the sombre hues in which he had painted *those*.

Lithectasy, or Cystectasy, the names he gives to the procedure, is founded on the dilatability of the membranous and prostatic part of the urethra, and is a sort of modification of the old Marian method. That operation was by incision of the external parts, and rapid dilatation or laceration of the internal, effected by a succession of blunt instruments called gorgets of different sizes. These instruments were introduced in pairs, through the membranous part of the urethra into the neck of the bladder, and being then separated from one another, they were made to distend and to tear. The first pair of gorgets having done their office, one of them was withdrawn, and upon the groove or tongue of that which still remained in the bladder, a second and larger-sized instrument was passed, then a third, and so on, until the amount of opening necessary for the passage of the clumsy tongs in use at the time, and the removal of these with the stone between their chaps, was obtained.

But it seems to be more particularly on a case of Sir Astley Cooper's that Dr. Willis leans. The subject of this case was a gentleman of middle age, who had some nine months previously undergone the usual operation for stone, in the course of which the rectum had been wounded, so that a fistulous opening remained between the bladder and the bowel, fæces passing with the urine and urine escaping with the fæces. In this state, and still suffering much from pain and irritability of bladder, the patient placed himself under the joint care of Drs. Neil and James Arnott, and Sir Astley Cooper. With a view to cure the fistulous communication between the urethra and rectum, Sir Astley Cooper made an opening into the urethra from the perineum, by which he passed a female catheter into the bladder, and immediately struck a stone. As it was likely to be small, Sir Astley did not object to the proposal now made by the Drs. Arnott, to try the effect of the new dilator in opening the passage for its removal. This instrument was accordingly used, and in the course of thirty hours the passage in the perineum, the membranous portion of the urethra and the neck of the bladder, were opened up till they were about two inches and a quarter in circumference, or three-quarters of an inch in diameter. The lithotomy forceps was then introduced by Sir Astley Cooper into the bladder, and the stone immediately felt, seized, and extracted. It was as large as a middling-sized walnut.

This operation was eminently successful. During the process of dilatation the patient had an uneasy feeling of distention, but nothing approaching to pain. In four days all the irritation of the bladder had subsided; the patient was able to retain his urine, and left his bed-chamber. On the ninth day the wound in the perineum was whole, and he began to take exercise abroad. And now for LITHECTASY.

"Let the urethra be opened upon a grooved staff in the mesial line and behind the bulb to the extent of a few lines, as used to be done in the old operation of boutonnière, or as Cheselden did in his last operation." "To make such an opening, a lancet, in the absence of an implement with greater fixedness of parts, would perfectly suffice; and the urethra once open, we can dilate to the extent we please if we will but be patient. The vegetable tents of M. Guerin can always be procured, and nicely made would answer indifferently well to effect the needful opening. But an apparatus that is far preferable, that can be controlled to a nicety in its effects, and that is much more powerful than the tent, whilst its operation is still of the best kind, is the fluid-pressure dilator of Dr. Arnott. This is an instrument which consists of a cylindrical tube of silk lined with the thin gut of a small animal, to make it water tight, fixed upon a canula which traverses its axis, and having attached to its outer end a syringe guarded with a stop-cock, by which it may be forcibly distended with water or mucilage. This instrument when empty exceeds but little in size the bulk of the canula or catheter with which it is connected, and is therefore easily introduced along the groove of the staff into the bladder. When there it can be gradually distended to its utmost limits, and being made of so tough a material as silk, it expands evenly and is not liable to be burst by any degree of force that can be usefully employed. In Dr. Arnott's original case, 30 hours, during which the urine passed regularly guttatim by the canula, and the patient complained of no pain, but merely of a sense of distention, sufficed to accomplish dilatation to the extent necessary for the introduction of the forceps and the easy extraction of a stone having the dimensions of a walnut. And this without risk for one moment to the patient! The wound in the perinæum is a scratch; in itself and immediately it is hardly so dangerous as the puncture that is made in venesection; ulteriorly it can by no possibility be followed by any evil or unpleasant consequence; the urine never even comes into contact with the raw surface,—the dilator is introduced, and immediately this fluid, so poisonous to open wounds, finds no passage save through the canula; before the dilator is again withdrawn, the fresh surface has become covered with coagulable lymph through which nothing can penetrate; and the stone being removed, the gap might be closed with a couple of points of twisted suture and the urine made to come away at once by the whole length of the natural passage." 167.

Dr. Willis, armed with this operation, protests that stone in the bladder has lost a great proportion of its terrors. He does not seem to care for it the snap of a finger. It must be owned that this is looking at an almost untried operation rather sanguinely. That seems to be Dr. Willis' temperament. Our own blood, we must confess, runs a little more sluggishly in our veins, dulled, it may be, by many Winters, and by experience of the fallacy of human expectations. Nor does "the ungentle craft" present to us projectors or their plans altogether couleur de rose. Repeated disappointments, if they do not sour the critic's disposition, damp, at all events, his faith, and he lapses into the ungracious sceptic. Such is the tenure of his office, and, alas! by that tenure we hold ours.

When trials have confirmed Dr. Willis' anticipations, when it is proved that the neck of the bladder, which often will not bear a bougie or sound, will bear such dilatation as this method implies, when the ordinary risks that wait on all meddling with an irritable and irritated viscus, are found to dissolve away before Lithectasy, then we will join our voice with Dr. Willis, and proclaim that stone *has* lost its terrors. But till then we must pause, and though we cannot but admire the lively talent, the enthusiasm, and the hearty earnestness of Dr. Willis, we regret that our own temper is more sober and more sad. We hope sincerely, for the sake of humanity, that he is right and we are wrong.

Periscope;

OR,

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcunque potest, atque addit acervo."

Notices of some New Works.

AN EXPOSITION OF THE PATHOLOGY OF HYSTERIA, OF HYSTERICAL AMAUROSIS, &c. By *Ed. Oct. Hocken*, M. D. Duodecimo, pp. 32. Highley, Fleet Street, 1842.

HYSTERIA may fairly compete with Dyspepsia in the number of Proteian forms which it can assume—in the irregularity and caprice of its course—in the obstinacy of its nature and treatment. Our readers are aware that the substance of this Essay has already seen the light on both sides of the Tweed; and therefore we may be excused for not going into a very minute analysis of its contents—notwithstanding the seductive averment in the first page:—"The subject matter of the following Essay is perfectly original on my part, and derived solely from a close and unprejudiced observation of Nature." It is true that Dr. H. has recently met with something very much resembling his own doctrine, in one of those old musty authors, who occasionally disturb the mental complacency of modern discoverers. But he declares, and we fully credit the assertion, that he was totally ignorant of "Truka's Historea Amauroseos," at the time of his writing.

In Dr. Hocken's "definition" of hysteria, he seems to have taken especial care to avoid that horn of the dilemma on which so many literary travellers have been impaled.

——— dum *brevis* esse laboro,
Obscurus fio.———

"*Definition.*—We may define hysteria to consist of such a condition of the general nervous system, original or acquired, as renders it capable of simulating most local diseases, of complicating them in their progress, and modifying them in their usual phenomena; or the general nervous system itself may be the theatre of its operations, being then attended with general convulsions, and complicated with symptoms derived from the impeded performance of the functions of particular organs: the condition of the nervous system in its two extremes, varying from mere increased excitability and mobility to complete coma or catalepsy. Affections of an hysterical character are usually marked by great and sudden changes in the display of the mind's affections and sensibilities, by tears and laughter, by anger and joy, despair and hope; by a copious flow of limpid urine, nearly colourless, borborygmi and flatulence, the sense of a globular body rising from the abdomen into the throat (globus) with feelings of suffocation, and frequent efforts to swallow, and a circumscribed pain in the temple, severe in character, denominated clavus. The constitutional and local phenomena most frequently occur in females shortly after puberty, being rarer in the adult, rarely but still occasionally seen in the male.

Such I believe to be a sufficiently wide definition of hysteria."

We think so too. It is the longest "definition" we have ever met, and, in

fact, it is a *description* of the malady in its more open and unequivocal character. Nor *do we* find fault with Dr. H.'s *lengthy* definition—except the vagueness of the first half, which might be omitted with very little loss. After all, the whole of our author's pamphlet—or at least nineteen-twentieths of it, is on the subject of hysterical amaurosis, with scarcely anything on its various other forms. This is, perhaps, all for the best.

"*Acute Hysterical Amaurosis.*—The amaurosis from hysteria may occur as an acute as well as a chronic affection; and under these circumstances we almost invariably find that derangements of the primæ viæ, of an acute or chronic character, have proved the immediate exciting causes, aided or called into action by mental excitement, slight bodily injury or fright. In these acute attacks we almost invariably meet with anomalous head symptoms, which precede and accompany the development and course of the amourotic phenomena; and in a case which I saw from its commencement to its termination, many other local symptoms of a distinctly nervous character appeared and disappeared suddenly during its progress. This is one of the peculiarities of such cases, namely, that the symptoms come on with an intensity and hurry never marked in common inflammation; they alternate in character, disappear or are alleviated most rapidly from improvement in the condition of the intestinal canal, or the complete correction of the existing condition.

In the case to which I have just alluded, the amaurotic confusion and distress of vision came on in connection with severe head symptoms, and a deranged condition of the abdominal viscera; this, with the other painful and deceptive phenomena readily yielded to remedies by which the alimentary canal was mildly but efficiently cleared out, the nervous system calmed, and the local abdominal irritation relieved."

An illustrative case is detailed, of which the following are the chief particulars:—

"At a period when the bowels were obstinately confined, about the seventh month of utero-gestation, she received a slight shock from tripping over the last stair in her descent, and was still further excited in the afternoon of the same day, by quarrelling with her husband. Under these circumstances she was attacked with a severe rigor, followed by heat of skin, a rapid, jerking, but soft and feeble pulse, thirst and dryness of the throat—there was the most violent cephalalgia of a pulsating kind, especially complained of over the brows; intolerance of light and amaurosis—the sight being imperfect, confused, and dazzling, and she was impatient of even the slightest noise; but the countenance was collapsed and pale, and she complained of sensations of syncope and vertigo on being raised into the erect posture; the abdomen was distended and slightly painful; the urine pale and abundant; the tongue moist but thickly coated, with a brownish slimy fur; the respiration accelerated, and the breath highly offensive."

A dose of five grains of calomel, with fifteen of rhubarb, and some pulvis aromaticus was given internally, while an anodyne terebinthinate enema was thrown up into the colon. A large quantity of highly offensive dark-coloured feculence was passed, containing scybalous masses, and with immediate relief. Several cases are detailed—some from the writings of others—some from the author's own observation.

The following is Dr. H.'s description of chronic hysterical amaurosis.

"The symptoms which characterise this form of amaurosis are the following, dividing them into objective aud subjective:—Spasmodic contraction of the orbicular muscles of the eyelids, especially on exposure to bright light; evident intolerance of the influence of light on the retina—a condition which occasions a sense of most distressing anxiety, profuse lachrymation, and firm spasmodic closure of the eyelid when we attempt to make an examination of the organ;

and if we succeed in raising the lid, which is readily effected if the eye has been quiet for some time before, we find the globe rotated upwards and outwards, still further to proteet the suffering retina from light. The globe itself when exposed presents nothing unnatural; there is not the slightest trace of any zonular, pinkish, hair-like arrangement of vessels around the cornea, which run parallel to within a short distance of its circumference, no conjunctival vascularity when the lid is first raised—but if the exposure be continued for any length of time in a strong light, then scarlet redness comes on, depending on the irritation and consequent hyperæmia of the conjunctival vessels—but this quickly disappears on the removal of the exciting cause. The pupils (for the affection always exists in both eyes at the same time) are contracted, and this in proportion to the degree of light present, and the degree of morbid sensibility in the retina; but they contract and dilate fully and freely in either eye by alternation of light and shade—proving that the state of the iris is dependent merely on its connexion with the condition of the retina, and not on any specific affection of its own motile powers. The texture of the iris retains its healthy brilliancy and radiated appearance, its normal structure and colour, nor is there any irregularity in the pupillary edge, no retraction with bulging of the iris forwards, nor any alteration in the situation of the pupil. The vitreous humour retains its healthy character: hence the eye-balls are neither flaccid nor hard and prominent; there is no greenish discolouration, no deep-seated opacity. The lens, the cornea, the aqueous capsule, and the aqueous humour are all healthy; and thus a local examination would lead to no knowledge of the pathological causation of the other symptoms which we learn from the patient—the eye and its appendages appear perfectly normal in their structure, but the retina and conjunctiva, and sympathetically the lachrymal gland and orbicular muscle morbidly irritable and sensitive.

The patient, when questioned about her local symptoms, complains of defective vision and great sensibility to the influence of light; these being invariably connected, so that it is impossible to separate them, and specify how much the one is dependent on the presence of the other: thus when she (for I have never seen the affection clearly defined in males) attempts to view any object, it is at first imperfectly defined and clothed in mist; but the increased sensibility of the retina, the lachrymation and the spasmodic closure of the lids soon obstruct vision completely. In the dark the intolerance of light diminishes, but never disappears entirely, and the sight still continues imperfect, but is nevertheless improved: but, on the contrary, in bright sunshine, or in an intensely illuminated apartment, she sees little or nothing, and strenuously closes the lids like a child suffering from strumous photophobia and blepharospasmus. The appearance of luminous or dark spectra is unusual, except occasionally from looking at white bodies, or those highly reflective of light, or on the first entering a brightly lighted apartment; but they never trouble the patient as in retinitis, nor is the eye-ball itself the seat of any uneasiness or pain."

With the above, the general and local symptoms of hysteria are combined.

In respect to the pathology of hysteria, the following contains the pith of all we can find in the pamphlet.

"*Pathology.*—I may inquire what relation those local derangements termed 'local hysteria' bear to that general affection of the nervous system, to which the specific title of 'hysteria' is applied? Are we to regard them as strictly local derangements of innervation, produced, but modified, by the same causes which induce the hysteria itself (if any local source of irritation be present,) or symptomatic of that general condition of the nervous system which constitutes hysteria? or lastly, a reflected action from derangement of the nervous centres? My own opinion is, that the amaurosis is a strictly local hysterical affection, analagous to those local nervous disturbances produced in the integuments, &c. covering the spine, and in many other situations—similating disease of the part or joint,

which are primarily dependent on the hysteria for their origin and existence, but may become localised and independent,—just in the same manner as the local affections in acute rheumatism are primarily but local manifestations of a general disease, yet by continuance become independent of their constitutional origin, and may even go on to produce the disorganizing results of common inflammation, which the local affections never produce whilst they retain their dependent and specific character: hence in those cases where symptoms denote the amaurosis as specific, the local irritation (should there be any) whether it be abdominal or uterine, bears no other relation to it than as an excitant of the hysterical derangement of the general nervous system, on which the local depends. If these propositions be regarded as satisfactory, they will bear me out in stating, before I proceed with the subject of diagnosis, and to the elucidation of Mr. Middlemore's queries,—1st. That the amaurosis should be attributed to the hysteria, and reckoned among those local anomalous derangements which the protean disorder is so fond of originating: 2nd. In reply to the inquiry—what share do abdominal or uterine derangements take in the production of the local and general symptoms? —we must reply that we cannot trace them both to the local irritation, or attribute them both to one and the same cause, since the hysteria is not necessarily connected with any local source of irritation, and certainly the amaurosis is not one of a simply sympathetic origin."

As far, then, as the general pathology of HYSTERIA is concerned, we cannot say that our author has given us much more insight into the matter than we possessed before we perused the pamphlet. Its simulation of amaurosis is more extended and delineated than in any notice or monograph on the subject, that we have seen—and this is the chief merit of the pamphlet.

Perhaps we might just be allowed to hint to Dr. Hocken, and very many others, that many things are long known before they appear in print—and that the first who publishes is not always the first who discovers or invents. We can safely say that, for very many years back, the fact of hysteria occasionally simulating amaurosis, was familiar to us and hundreds of other practitioners. No man knows this better than Sir Benjamin Brodie himself, to whom Dr. H. has dedicated his monograph. At the same time, we are quite ready to grant that Dr. H. is entitled to the thanks of the profession for collecting his scattered thoughts and papers into a focus, and thus bringing before the public some important facts for their consideration and reflection.

A BRIEF MEMOIR OF GEORGE BIRKBECK, M.D. By *Henry Clutterbuck*, M.D. Highley, 1s. 1842.

IT is not to the "storied urns" of the great—the rude sepulchral stones of the humble—

"With uncouth rhymes and shapeless sculpture deck'd,"

—the "*eloges*" pronounced over the biers of departed genius—nor to the "brief memoirs" of the dead, penned by friendship, poured forth by gratitude, perhaps prompted by pride—that we are to look for a true and just portraiture of those who have dropped from amongst us into the great ocean of eternity! The winding-sheet possesses the almost miraculous power of shrouding our failings and revealing our merits. No sooner does the vital spark forsake its tenement of clay, than our enemies cease their vituperations, or even join in our praise; while many of our dearest friends begin to recollect a thousand good actions, or amiable traits of character which had slipped their memory, or, at all events, never escaped their lips, till we are insensible alike to censure or flattery!

The subject of the present Memoir was one of those few who have no enemies, even where they have opponents in this world. Every one knows what a strenuous advocate Dr. Birkbeck was for the diffusion of knowledge among the

middling and lower classes of society—especially among those who were formerly called mechanics, but who are now designated as operatives. There is a very large and influential class in this—perhaps in all countries—who look upon this diffusion of knowledge as extremely dangerous, and who, by every means in their power—more frequently by concealed than by overt acts—counteract the spread of learning beyond the pale of those who do *not* work for their bread by manual labour. Dr. Birkbeck had, therefore, many opponents among the aristocracy—but, we believe, no enemies. We well recollect the time when one of the greatest wits of the day, but whose wit will never more "set the table in a roar,"* while ridiculing the idea of teaching mechanics the elements and practical application of the sciences, could find no other weapons than those of nick-names, to assail the popular lecturer, whom he denominated, "Dr. BRICKBAT, of the Mechanic's Institution."

We were well acquainted with our deceased confrere for more than twenty years, and can confirm the sentiments which Dr. Clutterbuck, so long his coadjutor at the Aldersgate Dispensary, has expressed towards him.

"In his *professional* character, Dr. Birkbeck's claim to notice was of the highest stamp. Of this, I consider myself entitled to judge in some degree, from my almost daily communication with him for a long series of years. Acute in observation, discriminating in judgment, patient and cautious in prescribing and administering remedies, he was, as might be expected, eminently successful in practice; thereby, as well as by suavity of demeanour, ensuring the entire confidence of his patients. He was thoroughly imbued with a knowledge of the *principles* and *practice* of our art, as at present subsisting; and, had his time and talents been directed *exclusively* or even *principally*, to the study of medicine, he would unquestionably have enlarged the boundaries of the science; and thus have contributed to its extrication from some part at least of the obscurity, in which it is at present but too deeply involved.

As a man, Dr. Birkbeck was simple, unassuming, and artless in his manners; of unbounded benevolence, and inflexible integrity. He was beloved, as well as esteemed, by a large circle of private friends—admired, respected, and lamented, by multitudes of all ranks, who had profitted by his instruction, or by his benevolence; and, I may add, he was almost adored in his domestic circle."

Though abstemious, even to an extreme, Dr. Birkbeck was destined to experience severe sufferings for some time before his death. For a long time he laboured under chronic hepatitis, and it is hinted by the talented Biographer that the disease was rather aggravated than relieved by the remedies prescribed by the patient's friends. He recovered under more rational treatment, but ultimately died of disease of the bladder, with enlargement of the prostate gland.

Although Dr. Birkbeck's eminent abilities, coupled with the great popularity which he acquired among the operatives, were calculated to lead him into extensive practice, yet, that practice was not so wide as might have been expected. The cause, however, is well known to those who have a knowledge of the world, as it respects the medical profession. All public reputation for extra medical studies, and reputed devotion to them, are sure to injure a physician in the practice of medicine. Even those studies which are auxiliary, and closely allied to physic, as chemistry, botany, &c. are far from calculated to spread the practice of his profession, if the public get an idea that they engross much of a medical man's attention. The world conclude (and perhaps not very erroneously) that the practice—the mere observation of diseases, and application of remedies—is enough for even a long life and the most assiduous attention. They conclude as a corollary, that addiction to any study, not essentially connected with practical medicine, has a tendency to absorb too much of the individual's time and thought, and wean zeal from the "one thing needful." It is probably from this notion, how-

* Theodore Hook, then Editor of the "JOHN BULL."

ever mistaken, that we see the public consulting medical men, who have long declined in their mental faculties, and still longer ceased to keep pace with the progress of medical science, in preference to those who are in the vigour of their intellect, and who know every thing, true or false, that has transpired in the world around them.

In conclusion, we may state, that this sensible and modest Memoir on the life of a departed friend, does equal honour to the head and heart of its talented author, Dr. Clutterbuck.

A TREATISE ON DISLOCATIONS AND FRACTURES OF THE JOINTS. By Sir *Astley Cooper*, Bart. F.R.S, Serjeant-Surgeon to the King, &c. Edited by *Bransby B. Cooper*, F.R.S, Surgeon to Guy's Hospital. London, Churchill, pp. 576. 1842.

The present will be found a much more convenient edition of this invaluable work than its predecessors. It is in the octavo form instead of the quarto, and not only is more portable, but more cheap. Although new matter and new illustrations have been added, the price has been reduced from two guineas to twenty shillings, a circumstance which in these hard times, will be unanimously voted an improvement.

The editor, Mr. Bransby Cooper, observes that, from papers (communicated to him), as well as from his own practice, several additional cases have been selected for the present edition; and much new matter has been added, which was derived from Sir Astley Cooper himself.

In order to admit of these additions, and at the same time to preserve the matter within the limits of the present volume, it has been thought necessary in some few instances to condense the original. It is, however, proper to mention, that the additional cases which were detailed in the preface to the last edition are now introduced into the body of the work, under the appropriate heads to which they refer.

Mr. Bagg, who may be styled the student's friend, has been invited to contribute his clever pencil to the illustration of the work. And he has done so with effect. The Editor informs us, that the reader will find the delineations copied from the quarto edition to be even more graphic and perspicuous than the originals; while the illustrations now for the first time introduced into the work are equally correct, clear and expressive. The advantages of such engravings being placed in immediate connexion with the portion of text which they are intended to elucidate, will not pass unnoticed by those who have felt the inconvenience of having to search at the end of the volume for each plate to which reference occurs in the text.

After the fiat of the profession, it would be absurd in us to eulogise Sir Astley Cooper's work on Fractures and Dislocations.

It is a national one, and will probably subsist as long as English surgery. But still additions to it may unquestionably be made, and if corrections are not needed emendations may be useful. The additions which have been ventured on by Mr. Cooper seem to us, so far as we have observed them, to be judicious and useful. Perhaps a little more variety might have been displayed in reference to the means of surgical treatment, but this is a good fault. A lengthy catalogue of names and methods more frequently embarrasses the student than assists him, and one good and practical direction is worth a dozen doubtful ones.

Altogether, Mr. Cooper deserves well for this edition, and we are convinced it will be popular.

Spirit of the Foreign Periodicals.

PREFATORY REMARKS.

IN our last number we made our readers acquainted with the observations of an intelligent German physician on the general character of French medical practice and literature, and we took that opportunity of pointing out the marked coincidence of his opinions with those which have been expressed by ourselves for many years past in the pages of this Journal. The study of national, as of individual, differences is always an interesting, and often a very instructive one; and certainly in no department of human knowledge is the importance of it more prominently true than in medicine. For not only is there something peculiar in the original constitution of almost every patient, manifested in almost every complaint with which he may be affected, but there is a host of other influences, some internal or appertaining to the person himself, and others external or connected with his mode of life, occupation, season, climate and so forth, each and all of which have a tendency to modify the phenomena of morbid action, and the consideration of which will never be overlooked by the scientific physician. It is vain therefore to seek to establish fixed and unalterable laws in medical as in the exact sciences. Then, again, how multiform and ever-varying are the forms of those ills to which our bodies are liable! Though seldom perfectly alike, there is always some feature of resemblance in their symptoms or in their mode of progress:

——— facies non omnibus una,
Nec diversa tamen. ———

Are not some endemic, and obviously dependent upon the agency of a local cause while others are met with in every corner of the world? Is not the same (apparently) disease at one time of casual occurrence and at another time of widespread and epidemic extent? Are not some maladies contagious and others not so? Is not the course of the former usually more regular and defined in their successive stages than the latter? Are there not certain diseases which are developed only once during life, while there is no limit to the recurrence of others? These are only a few out of numerous other questions, connected with the history of our science, which will perhaps ever continue to baffle and perplex the physician: there are, we may be assured, mysteries in medicine, as there are in religion; and the part of the wise man is to acknowledge, although he cannot explain them.

But leaving these generalities, let us consider for a moment how numerous are the influences of a more local and circumscribed nature, which tend to introduce discrepancy and confusion of opinion among medical men in their study of diseases. We have already said that the constitutions, like the faces, of no two persons are exactly and in all respects alike. If this be true of individuals, how much more forcibly true is it of nations. No two people fare entirely alike, or breathe exactly the same atmosphere, or live on the same food, or are clothed with the same raiment, or are exposed to the same vicissitudes of weather. Of late years the study of the differences of temperaments, natural or acquired, has been far too much overlooked; and hence some physicians of the modern hasty school have vainly attempted to apply exactly the same line of treatment to nearly all patients alike affected with a disease, in all seasons and in all climates. The "school-master abroad," that we have of late years heard so much about, might

have taught medical men a wiser lesson. Surely the severity of any kind of discipline should be regulated by the character of each individual! The same amount of depletion, or of stimulation, which may be suited to one, may be hurtful to another. Much will depend on the mode of living too of the parties; on their previous health; on their moral temperament; on their occupations, &c. Now these considerations ought unquestionably not to be lost sight of in the study of diseases as they appear in different seasons and in different climates; and yet it must be confessed that in the present day we very rarely meet with any marked allusion to them. For many years past medical literature has been almost exclusively occupied with what have been called practical treatises on this or on that malady; which treatises are too often little more than the records of the experience of some physician or surgeon in a particular disease during a very limited period of time. We do not require to be told that the aim and object of all theory and study is to improve our practice and to render the treatment of diseases more uniformly successful; but we have great doubts whether the authors of the present century have been taking the right way to achieve this much-desired end. How comes it, we ask, that not a year passes but some work comes out questioning or positively contradicting the facts and reasonings of a production of the preceding one? Are we in truth at all more successful in the treatment of some of the most common and fatal diseases than were our predecessors fifty or sixty years ago? Is the treatment of typhus fever, for example, better understood than it was in the days of Cullen and Pitcairn? or rather have we not, after trying a variety of new-fangled experiments of our own, been of late returning to the principles and precepts of these and such-like men? Even in that class of diseases, in a correct knowledge of which more progress has been made during the last 30 years than in any other—we allude to the diseases of the lungs and heart—the stability and success of our modes of treatment have not made corresponding advances with our improved means of diagnosis. We frankly and unhesitatingly admit that the stethoscope has done a vast deal for the improvement of medicine; but we must not blind ourselves against the staring fact that the *use* of it has in a thousand instances led the physician to erroneous conclusions. It was only the other day that a friend of our's consulted a celebrated stethoscopist—and well-known writer on auscultation—of this metropolis for palpitation of the heart; the case was pronounced after due examination to be one of hypertrophe and incipient disease in the valves of this organ. Fortunately, however, for our friend, who is of a highly excitable temperament, the palpitations gradually subsided of themselves, and there is now not the slightest reason to suspect any cardiac disorder. Then again, on the subject of renal disease, has there not been, of late years, a most extravagant disposition in some even of our best physicians to magnify the frequency and importance of an alleged lesion in the structure of the kidneys as the cause of a multitude of diseases? We know of not a few instances in which the case has been pronounced to be one of the *morbus Brightii*, from the mere occasional presence of a portion of albumen in the urine, when its other symptoms, as well as its ultimate issue, have pretty satisfactorily proved that the kidneys were little, if at all, at fault. Mistakes of this sort are of daily occurrence, and are, alas! sometimes attended with serious consequences. We blame not the stethoscope and its truly great inventor, nor the test-tube and such writers as *Bright*, *Christison*, and *Rayer*, for these mistakes; but we certainly attach a great deal of the blame to the prevailing character of medical writings and medical lectures in the present day. They are almost all calculated to exaggerate the importance of one set of symptoms or of one mode of treatment, and are therefore greatly deficient in those philosophical and comprehensive views of disease which pervade the writings of the preceding generation. Well would it be for our science if some one, akin to the master-minds of last century, such as *Boerhaave*, or *Cullen*, or *Hunter*, or *Bichat*, were to arise and review the phases which have taken place during the course of the present one. There seems

however little prospect of such an event; the aim and end of all appearing to be that of brother Jonathan in his commercial pursuits, "to go ahead" of all competitors for present wealth and fame. The task is one, too, which requires a rare union of high intellectual and moral endowments; a thorough practical knowledge of diseases, an extensive and refined scholarship, a penetrating sagacity of view, and a calm impartiality of judgment—not omitting the necessary "otium cum dignitate," and a sincere love of the subject.* How worthy such a labour would be of an *Abercrombie* or an *Alison*—the two men in this country who could probably do it most justice!

It is certainly much to be regretted that the great captains of our art should so rarely communicate the general results and mature after-thoughts, so to speak, of their experience and observation in the form, not of detailed treatises on any particular disease, but of comprehensive commentaries or essays, for the benefit of those who come after them. We strongly suspect, that if any of them were doing so in the present day, their judgment would not be very flattering to the medical works of the present century, and that, while they acknowledged the progress that had been made in some very useful manipulations, they would tell us that there was little of that dignity of design and breadth of execution which stamp the productions of a former age. There has been much neat chiselling and clever masonry in this age; but where are the mighty temples and the god-like statues of antiquity? One reason, among others, of the want of that philosophic comprehensiveness in medical works of the present century, is unquestionably the neglect of the past literature of the profession. In forgetting our forefathers we have unduly magnified ourselves.

We were certainly no less pleased than surprised, the other day, with meeting the letter of M. *Double*, that accomplished physician of the French metropolis, on the study of the ancient classical authors of medical literature, and from which we have given copious extracts in a future page. Many, we know, will be inclined to say, that he surely exaggerates the value of such pursuits; but we should suggest to such persons that it may be wise to hesitate in their judgment, when they find a man, an acknowledged master in the practical duties of his profession, confessing that he often falls back upon the pages of Hippocrates and Galen for instruction as well as for gratification.

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* It is not by poets alone, while engaged in the preparation of any great work, that the fine remarks of *Milton* should be borne in mind:..... "An inward prompting grew daily upon me that by labour and intent study, which I take to be my portion in this life, joined to the strong propensity of nature, I might, perhaps, leave something so written to after-times, as that they should not willingly let it die."..... "The accomplishment of these intentions lies not but in a power above man's to promise; but that none hath by more studious ways endeavoured, and with more unwearied spirit that none shall, that I dare almost to aver of myself, so far as life and free leisure shall extend. Neither do I think it shame to covenant with any knowing reader, that some few years yet I may go in trust with him toward the payment of that for which I am now indebted; as being a work not to be raised from the heat of youth or the vapours of wine, like that which flows at waste from the pen of some vulgar amorist, nor to be obtained by the invocation of dame memory and her syren daughters; but by devout prayer to that Eternal Spirit, who can enrich with all utterance and knowledge, and sends out his Seraphim with fire from his altar to touch and purify the lips of whom he pleases."

What a magnificent introduction of a work! how worthy is the vestibule of the sublime temple that was reared by

"The blind old man of *Britain's* rocky isle!"

In the discussion, which took place in the Royal Academy on the subject connected with M. *Double's* letter, we find quite such a discrepancy of opinions as we might have anticipated from our knowledge of the members of that learned body. The physical-force physicians, of which M. *Bouillaud* may fairly be considered as one of the leaders, at once asserted that there was nothing in any of the ancient authors that was not a great deal better said in the writings of the present day, that almost all their theories were vague and foolish, and that their practice was, as a matter of course, worthy only of old women.*

It is fortunate, however, that all do not form quite so summary a judgment of the question as the disciples of the so-called physiological school. A very intelligent writer in the Gazette Medicale, has made some excellent remarks on the subject.

"We have heard," says he, "some persons regret that the Academy should waste its time in such controversies. These persons are greatly mistaken. There is no reason to believe that the communications suspended by this literary episode would have offered any greater interest. Such discussions elevate in our opinion not only the Academy, but also medical science, of which the Academy is at once the organ, the focus, and the interpreter. Let us remember that medicine, viewed in its comprehensive range, is an elevated and complex science, which requires in its true disciples the union of the artist and the philosopher, and the most varied development of the higher faculties of the intellect applied to the examination of all the moral and physical circumstances which from far or near affect mankind. It is thus that medicine is eminently distinguished from all the purely physical and mechanical sciences, and becomes intimately allied with the metaphysical, moral and social sciences, with the general philosophy of man, with the history of the species, and, by a necessary consequence, with literature and erudition. If, therefore, modern medicine wishes not to lag behind its high functions, and hopes to maintain its intellectual supremacy, it must firmly resist that hurtful tendency, so prevalent in the present day, to push science on to a 'material positivism,' the immediate practical value of which, however highly it may be thought of, can never compensate for a more serious injury, that of debasing and confining the faculties of the mind.". . . . . .

"Even if we were to admit that we could dispense entirely with ancient medicine, we should not break off our acquaintance with the physicians of those days; an intercourse with the great minds, which have successively enriched the field of science, is always profitable. There is always something to be gained from a communion with such men as Hippocrates, Galen, and Boerhaave. The errors of such men do not resemble those which common minds fall into; they almost always contain some profound thought, or suggest some useful reflection.". . . . . .

"If the medicine of the present century has, in many respects, left far behind that of former times, it is by no means as certain that the physicians of our day can be individually compared with those of past ages. At no period have literary studies and pursuits been more neglected than they are now. If we wanted a proof of this, we should only have to point to the discussion which recently took place in the Academy. Very few of the members ventured to

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* Another learned (!) academician, M. *Bouvier*—is this the gentleman who a year or two was boasting that he could straighten, by one application of a powerfully-extending mechanical apparatus, joints that had been contracted for years?—assured his audience that, the only way to admire Hippocrates was not to read his works; for that, having one day looked into them by chance, he found nothing but absurd peculiarities and the most complete *galimatias* in every page!

take part in it; and of the few that did, there was scarcely more than one or two who seemed to have any knowledge of the writers of antiquity.

Even if they had perused no more than the beautiful introduction to the works of Hippocrates by M. *Littre*, the most recent and the most remarkable work on the Coan sage and his writings, they would have made a more respectable appearance. As to the critical and philosophical opinions expressed by most of the speakers, it was really painful to listen to them; and we know not whether to be more surprised at the incredible penury of their actual knowledge, and the feeble and limited style of their reasoning, or at the confident assurance with which they spouted forth their ignorance. We blame not them alone for this state of things; but we blame the vicious state of modern education, which, being exclusively occupied with the more immediate requirements of our art, calls into play those faculties only necessary for this purpose, and dispenses with all those branches of knowledge which do not directly appertain to it. The interest of the art is thus sacrificed to the interest of the artist; and hence the mass of medical practitioners are, it must be confessed, sadly deficient in some of the most important qualifications of an enlightened and well-educated gentleman. We may rest assured that the social position of medical men, even in reference to mere worldly matters, will be improved just in proportion as they distinguish themselves by their intellectual and moral attainments, and that their profession will be the more honoured and rewarded as their characters are more dignified above the other classes of society."

Several of the articles in the Foreign Periscope of our present number will enable the reader to form a tolerably fair opinion of the characters of some of the leading physicians and surgeons in France of late years, and of the general tone of professional feeling that has existed for the last thirty years and is still dominant in that country.

The first article deserves especial notice from the great interest of the subject —Sir *C. Bell's* celebrated discovery in respect to the different functions of the roots of the spinal nerves. Like its great predecessor in the annals of physiology, the circulation of the blood, this discovery, after encountering all sorts of opposition and contradiction for a length of time, seems to be now admitted even by the French school—the last, indeed, to acknowledge its truth, to be firmly and irremovably established.

The experimental researches of M. *Longet* have been very numerous, and are perfectly conclusive. In our opinion they were unnecessary; but the French writers think otherwise, and, with a truly national spirit, they appear to intimate that, until the publication of M. *Longet's* work, and the recent communication of M. *Begin* to the Royal Academy, Sir *C. Bell's* doctrine on the Nervous System had not been at all satisfactorily proved. It is unnecessary here to dispute their claims; we only trust that we shall not hear of any further experiments on living animals to make the assurance doubly sure.

This first article commemorates the establishment of a physiological truth; the next one records the vain attempt to prop up a pathological error. There can be no doubt that, in spite of the energetic attempts of some clever men in France, M. Broussais' system is manifestly on the decline, even in the land of its nativity. It may be all very well to try and give an *eclat* to it by addressing pompous eulogies to the memory of the "grand reformateur," but this alone will not do.

Like many other great *reformers* (!) of the present day, M. *Broussais* has been already weighed in the balance and found wanting. He strove to overthrow all the old and established usages and doctrines of his predecessors, and to substitute a system that, by its apparent simplicity, gained for a time a host of admirers and followers. He has been called, by some of his countrymen the Napoleon of medicine!

In one respect only does the comparison hold good; neither has succeeded in establishing a dynasty that has endured.

The third article, a notice of M. *Louis's* work on Typhoid Fever, may appropriately follow the description of M. *Broussais's* inauguration. We have been surprised that some really talented physicians in this country have so much exaggerated the merits of M. *Louis's*. As a pathologist, or, we should rather say as a morbid anatomist, he is entitled to high praise; but as a scientific physician, or safe guide to follow in practice, he is below mediocrity. What value can we attach to the precepts of a man who has discovered that bleeding and blistering have little, if any, effect in subduing active inflammation of the lungs! M. *Louis* is one of those cold materialists in medicine, who can believe in nothing but what is revealed by the scalpel; and, as is usual with such men, he seems to be a sceptic on many points which are admitted as axioms by the bulk of his brethren. The remarks, which we have made in our notice of the second edition of his work on Typhoid Fever, show, we think, how vague and undecided his opinions are, even on a subject to which he has devoted the most assidious attention, and on which he is considered to be quite an authority by many of his countrymen. We much fear that there will always be, in the French school of medicine, a large section of men who cannot stretch their views beyond the mere material phenomena of diseases, and whose ideas must therefore remain "cabined, cribbed, confined," within the limits prescribed by some favourite dogma. One reason for this state of things in the present day is the lamentable ignorance, which prevails among them, of foreign medical literature. They are nearly in the situation of persons who have never left their native town or district, and who very naturally suppose that *their* habits, and usages, and opinions are necessarily the right ones, and that whatever differs from them must be the result of inferior intelligence and refinement.

Although this charge is true of French authors generally, there are some very honourable exceptions to it among the physicians of Paris; and, in a recent number of this Review, we mentioned the name of M. *Rayer* with especial praise, as a man of extensive erudition and fine scholarship.

With the view of showing that a counter-current is beginning to make head even in France against the stream of Broussaisism, and his *localising* doctrines, we have added one other extract from the recent lectures of M. *Andral* on the Changes of the Blood in Disease. In our late numbers we have so largely dwelt upon this subject, that it is unnecessary to say more at present than to recommend our readers to watch the development, or perhaps we should rather say the resuscitation in an improved form, of a system which will ere long overthrow the tottering edifice of an exclusive *solidism*. It is fortunate that it has fallen to the lot of so consummate, and withal so unbiassed, a pathologist as the author of the Clinique Medicale and the Pathologic Generale, to take the initiatory step in the establishment of a sounder nosology; as no one can accuse him of being a visionary, or of being ignorant of the discoveries of modern times. If no other benefit resulted from these researches of M. *Andral* on the blood, than that of most convincingly showing that there is an essential difference in the state of the vital fluid in the pyrexiæ from what exists in the phlegmasiæ, that alone would be sufficient to stamp them with high value—not that this is any novel discovery; far from it; it is the common doctrine of the leading physicians of last century. The great merit of M. *Andral* is in having recalled the attention of medical men to the fact, and in having established its truth by a series of exact experiments. Does not this show the impolicy of our neglecting the study of the older authors, and of our hugging ourselves in the belief that the present state of medicine is so far ahead of what it ever was before?

The letter of M. *Double*, to which we have already alluded, comes very *à propos* at this time, and we solicit our readers' especial attention to the extracts

which we have given from it, and also from the reply of M. *Fred. Dubois*—"who," we are informed by a writer in the Gazette Medicale, "is one of the few physicians in the present day who do not regard the study of literary and philosophical pursuits as incompatible with the more immediate requirements of our profession."

The short biographical sketch of the late M. *Richerand*, which follows, is not devoid of interest; it suggests more than one useful lesson to medical men. In the case of him, as well as in that of his more successful competitor, M. *Dupuytren*, we see the painful effects of an ill-regulated mind. Both were men of great professional talents, and yet neither achieved the good that they might have done. Both were unhappy in their lives; the one was the victim of envy and disappointment, the other of an unsatisfied ambition, and of a gnawing inward chagrin. How striking is the contrast between the close of their career, and that of their great countryman, Baron *Cuvier;* after a life of unsurpassed honour and distinction and success, how calm and dignified and religious was his end!

ON THE PHYSIOLOGY OF THE NERVOUS SYSTEM: CONFIRMATION OF SIR C. BELL'S VIEWS.

We have been much pleased with the perusal of a candid review, in the Gazette Medicale, of a work recently published at Paris by M. *Longet*, and entitled "Experimental and Pathological Researches on the properties and functions of the bundles of the Spinal Marrow and the roots of the Spinal Nerves, with an historical and critical examination of the various experiments made upon these organs by Sir *Charles Bell*, and others, &c."

The great discovery of the English physiologist had of late years, we are told, began to be questioned, and even by some to be fairly denied; for we find that, at a Meeting of the Academy of Medicine, about two years ago, one of the members undertook to demonstrate that the doctrine of the difference of function in the roots of the spinal nerves was a mere hypothesis devoid of all solid foundation. This bold assertion was certainly combated by several of the gentlemen present; but the effects of the discussion that then took place was certainly to leave a general impression that the views of *Bell* had received a decided check, or at least that its weak side had been exposed. It was with the view of fairly setting the question at rest either one way or the other, that M. *Longet* undertook a series of experiments, which were afterwards repeated in the presence of such judges as MM. *Flourens*, *Blainville*, *Gerdy* and *Blandin*, and the result of which has been, in the language of another distinguished member of the Academy, M. *Breschet* "to give a mathematical demonstration of one of the most important facts in the whole range of physiological science." We (the Rev.) might say that this mathematical demonstration had been already afforded by the beautiful experiments of Müller, of Berlin, on frogs, the earliest notice of which in English medical literature appeared in the pages of this Journal.* The French have thought otherwise; and glad we are that the question at issue may now be con-

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* Vide the Medico-Chirurgical Review, for January, 1834. The interest and value of the paper in question are greatly enhanced by its having elicited from Sir *Charles Bell* himself an admirable letter addressed to Dr. *Johnson*, and which is published in the same number. It will amply repay the trouble of referring back to it, not only for the facts which it communicates, but also for the comments which the distinguished author makes on the French physiologists.

sidered as fairly settled even by them; for we cannot conceal our abhorrent dislike of what they call vivisections, in which unoffending brutes are made the victims of the most shocking sufferings, all with the view of advancing science! Rather perish science, we almost feel inclined to say, if it cannot be promoted save by outrageous cruelty; but, thank Heaven, there is but little need of such bloody experiments as are far too frequently resorted to by the medical men of the French school.* What a different example has been set by the great English physiologist of modern times, the author of that very discovery which we are at present considering—a discovery, the beauty and value of which are co-equal with that of *Harvey* himself.

The work of M. *Longet* is divided into three parts. The *first* is occupied with a minute critical examination of all the various experiments, which have been performed by different physiologists from the period of Sir *C. Bell's* first announcement of his views down to the present time.

"This review," says the writer in the *Gazette Medicale*, "will by many be considered severe; but no one can have a right to complain; for there is nothing personal or arbitrary in it; and if it appears at times somewhat rude, it is because facts speak for themselves, and their language is often anything but polite, as we all well know." In reference to the experiments made by several authors on the anterior and posterior roots of the spinal nerves, M. *Longet* disapproves entirely of the plan which has been usually followed—that of merely dividing one set of them in order to judge of the effect of such a division by the paralysis either of sensation or of motion which may ensue. "The laying open of the spinal canal, independently of every other mutilation, must greatly affect the motory power of the animal; and hence, if the operator then proceeds to divide the posterior roots, the loss of motion that *may probably be* observed proves nothing, for this good reason, that it was nearly gone already. He therefore gives a decided preference to the use of *irritation* (galvanic) over that of simple *section*, in judging of the effects of such experiments. The loss of sensation in any part will always, be it remembered, influence to a very considerable degree its powers of motion under the application of mechanical or chemical stimuli."

Müller, however, it must be remembered, has anticipated by several years this very remark of our author, as may be seen by referring back to the account which we gave of his interesting experiments on frogs in this Journal, for January, 1834.

The *second* part of M. *Longet's* work is devoted to a critical narrative of the pathological arguments in favour of *Bell's* doctrine furnished by the histories of numerous recorded cases of disease. "Nothing," says the French reviewer, "can be more conclusive than the mass of facts thus spontaneously supplied by nature, and all converging to one point. The observations, however, being drawn from various published works, this circumstance, although it is a fresh guarantee of their authencity, tends to deprive this portion of our author's volume of that original interest which attaches to the first and third portions. We shall only remark that, if the number of conclusive cases which he has brought together seems to be very small, this does not arise from his having designedly excluded any that appeared contradictory of his system, but solely from his unwillingness to admit any except those which contained a definite and well-marked result, whether for or against *Bell's* doctrine. Thus out of 350 recorded cases of diseases of the spinal-marrow which he has passed under review, he admits

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* Shakspeare says, with no less truth than beauty, of Cymbeline's Queen—who was an amateur experimenter with "poisonous compounds" on animals!—

"Your Highness
Shall from this practice but make hard your heart:
Besides, the seeing these effects will be
Both noisome and infectious."

not more than 20 in which the lesion was ascertained on dissection to be limited to one of the bundles, or to one of the series of roots, and in which the symptoms during life had been prominently marked. We may add that of these 20 cases one only has appeared to be at all opposed to the theory of *Bell*, and the details of this very case are so very imperfect that we cannot fairly regard it as a conclusive exception."

In the *third* section of his work M. *Longet* gives an excellent description of the numerous experiments and researches which are peculiar to himself, with the view of determining the functions of the fasciculi of the spinal marrow, and of the anterior and posterior roots of its nerves. The number of the experiments which he has performed on dogs and other animals amounts to no fewer than 330, many of them too in the presence of the most competent, and sometimes even prejudiced, witnesses. The results of these experiments have been so uniformly in favour of *Bell's* views, that we may well say with M. *Breschet*, that our author has given the *mathematical demonstration* of a fact which many physiologists obstinately continued to dispute, even after the experiments of *Müller*, *Panizza* and *Valentin* were known to the public. The almost unvarying uniformity in the results obtained by M. *Longet* can only be regarded as the consequences of an established law in the animal system.

The following is the manner in which he conducted his experiments—which, however conclusive they must be admitted to be, we (the Rev.) must again express our abhorrence at, as unnecessarily barbarous and uncalled for.

The lumbar portion of the spinal canal in a dog was laid open, the anterior and posterior roots of the nerves were divided transversely, and then the one root was separated from the other as far back as the ganglion which exists on the posterior one. This being done, the *peripheral* extremity of the anterior root was laid upon a plate of glass, and the two poles of a galvanic pile—consisting of 20 pairs of 4-inch plates—were applied to this extremity. The animal exhibited no indication of pain, but violent contractions of those muscles only which receive twigs from the divided root were induced.

When the posterior roots were treated in the same manner, not the slightest convulsive movement was observed to take place.

When the poles of the instrument were applied to the *central* end of an anterior root, no movement was induced; but when they were applied to the *central* end of a posterior one, all the parts of the body (and not only that part on which the nerve whose root had been divided is distributed) were thrown into the most violent convulsions—a fact which shews they were owing to the extreme pain felt by the animal.

Similar phenomena, although in a less marked degree, were induced when a mechanical stimulus was applied in lieu of the galvanic.

As some physiologists have obtained results somewhat different from those now stated, it will be useful to allude to the causes of the errors that have been often committed in conducting such experiments. Without again alluding to the confusion that is always apt to follow the employment of an over-powerful galvanic pile, we may remind our readers that the nervous chords, being, like all moist bodies, conductors of galvanism, may transmit the galvanic fluid according to physical laws and contrarily to those of the living organization. M. *Longet* has for example satisfied himself that, by placing the posterior root of one of the spinal nerves in communication with one pole of a battery and the muscles of the thigh with another, the whole limb is thrown into convulsions: in this case the motific irritation must have travelled along a nerve which is exclusively sensory. This result is observed whenever the energy of the battery is very considerable.

M. *Magendie* has asserted that the anterior roots are sensory (jouissent de la sensibilité). The experiments of M. *Longet* have been uniformly and decisively contradictory of this opinion. The discrepancy in the statements of the two

physiologists may perhaps be accounted for in this way. In the dog, as in man, the lumbar or sacral nerves are sometimes observed to consist of three distinct chords; of which one belongs to the anterior and the other two to the posterior root. It may therefore very readily happen that, when an experimenter supposes that he is touching the anterior root, he may have got hold of the deep-seated chord of the posterior one, and thus that the phenomena of sensation only will be manifested, when he expected muscular contractions to be induced.

We deem it unnecessary to do more than merely to allude to the experiments described by M. *Longet* with a view of shewing that the anterior cords or bundles of the spinal-marrow itself are essentially *motific* and the posterior ones essentially *sensific*. Suffice it to state that these experiments demonstrate—as satisfactorily at least as such mutilating experiments can do—the fact of the difference in function of the anterior and posterior roots of the spinal nerves.

M. *Longet* arranges the various nerves of the body in three classes—1, nerves of special sensation, the olfactory, the optic, and the auditory; 2, nerves of motion, viz. the anterior roots of the 31 spinal, seven cranial pairs, the motors of the eye, the masticators (motor roots of the trigemini), the facial, the hypo-glossal and the accessory; and 3, nerves of general or common sensibility, viz. the posterior roots of the spinal, the trigemini, the glosso-pharyngeal, and the pneumogastric. This arrangement is very faulty in many respects; but we cannot at present discuss the subject.

Although by the combination of sensory and motory filaments in the same sheath, the greater number of nerves become in their course endowed with compound functions, it is no less true that there are no nerves which are *mixtes* (*i. e.* sensory and motory at the same time) at their point of union with the cerebro-spinal axis. M. *Longet* has satisfied himself of the truth of this assertion by numerous experiments. When any of the nerves, placed in the class of *motors*, were divided at their origin and galvanized, contractions of the parts on which the nerve is distributed were invariably induced; and, on the contrary, whenever any of the sensory nerves was so treated, the animal always manifested pain, but there were no muscular contractions.

To ensure success in these experiments, it should be remembered—1, that the nerves experimented upon must be carefully detached from the surrounding tissues; otherwise the galvanism may act on the adjacent cord; and 2, that the nerves must be taken at their points of emergence from the cerebro-spinal axis, before they have received any *alien* filaments. It has no doubt arisen from the neglect of these precautions that different results have been obtained by different physiologists from apparently similarly conducted experiments.

By keeping in mind the important fact that many, both of the sensory and motory nerves, receive in their course filaments of a kind different from their primary cords, we can explain various morbid phenomena which are otherwise obscure.

The sensibility of the facial is derived from its anastomoses with twigs of the fifth pair. The paralysis of the velum palati, a not unfrequent accompaniment of facial hemiplegia, is at once interpreted when we understand that the glosso-pharyngeal (a sensory nerve) receives an anastomotic filament from the portio dura. It must be admitted, however, that all the facts of this kind are not so easily explained; and it is often a difficult problem to determine, whether a communicating filament between two nerves of different functions proceed from the motory to the sensory nerve, or vice-versâ.

With respect to the great sympathetic nerve, M. *Longet* is of opinion, that each of its numerous ganglia receives from the spinal nerves both a motory and a sensory filament, and one or several twigs besides by which it communicates with the ganglia in its neighbourhood.

Before closing our notice of this valuable work, we must not omit to mention that our author has extended his researches to some of the invertebrate ani-

mals, and that he has obtained results which seem to prove that the same distinction exists between the two sets of nerves in them, as in animals of a higher grade. The comparative anatomist is aware that in the *Crustacea*, the nervous chain on each side consists of two separate longitudinal cords, of which one is superior, the other is inferior, and that it is only on the latter that there is any appearance of ganglia. This arrangement at once suggests the idea that the inferior (or dorsal) cords are sensory, and the superior are motory.

M. *Longet* performed some experiments upon Lobsters, with the view of determining the effects of irritation on these two sets of cords. He found that, when he irritated the nervous roots which proceed from the superior cord, the animal exhibited no signs of suffering; but that it always struggled a great deal whenever he pricked with a lancet one of the ganglia on the inferior cord. When the interganglionary cord was divided across, that part of the body, supplied with nerves below the point of section became motionless. By thus irritating the superior face of the caudal end of this cord, contractions, although in a feeble degree, were observed to take place; whereas, there was not any appearance of such on irritating its inferior or ganglionary face. These experiments perfectly accord in their results with those already obtained by *Valentin*, and strongly confirm the accuracy of his conclusions.*—*Gazette Medicale.*

LETTER FROM MR. SHAW ON M. LONGET'S WORK, WITH REMARKS ON THE MODE OF CONDUCTING PHYSIOLOGICAL OBSERVATIONS.

We had recently an opportunity of conversing with Mr. *Shaw*—whose intimate knowledge of all, that has been done and written about the nervous system of late years, entitles his opinions to high consideration—on M. *Longet's* work, and we gladly avail ourselves of his permission to introduce a letter which he has addressed to us on the subject of the preceding article. Mr. *Shaw* says,—

"I have been acquainted for some time with M. *Longet's* book. The experiments, which he has related on the roots of the spinal nerves, have been performed with so much care, and the results have been so decisive, that it is to be hoped the profession will at length unite in manifesting a general feeling, that the repetition of experiments, attended with so much cruelty, is no longer excusable.

In reference to the attempts to solve any questions concerning the distinct endowments of the nerves by experiments on the lower animals, it has long appeared to me a subject of regret, that the notion should have obtained such a strong hold as it has done on the minds of physiologists, that this plan of investigation was so pre-eminently superior to that of drawing deductions from the anatomy. It will be remembered by many that, soon after the first promulgation of the improved views in reference to the functions of the nervous system, a school of physiologists, assuming to themselves the name of *experimental phy-*

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* Sir *C. Bell*, in his letter to Dr. *Johnson* already alluded to, adverts to the confirmation of his views by comparative anatomy..... "When I had yesterday the pleasure of meeting you in consultation, I shewed you a preparation which I value more than all the contributions from experimenters. It is a dissection by Mr. *Newport* of the nerves of one of the articulata, in which the analogy of the great central cord with the spinal nerves of the vertebrata is made out. In one aspect of the cord, you see the nervous matter forming a succession of ganglions; on the other, you see a column of nervous substance running over these ganglions, in the whole length of the cord. Can there be any doubt that these different columns are for sensation and motion?"

siologists, sprung up. The professed tenets of that school were to withhold belief from every deduction drawn from anatomical structure; and to consider such deductions hypothetical and unproved, until they had been over and over again submitted to the test of experiments on living animals.

Good service would be done to the profession at the present day, if the influence of that class of physiologists were lessened. That object could not perhaps be so effectually gained, as by some one, competent to the task, showing how various questions which have given occasion to the performance of experiments without number—followed too often by conclusions of the most incongruous and contradictory nature—might be finally settled, by following the anatomy correctly, and keeping certain well-established principles in view.

To treat the subject properly, would require more ample illustration than there is at present room for. But the statement I have just made applies in an especial degree to the question of the distinct functions of the two different roots of the spinal nerves. The profession must be well persuaded, by this time, what a difficult task it is to obtain certain and uniform results by having recourse to experiments on these parts. No better proof is needed than the very circumstance of M. *Longet* deeming it necessary, thirty years after the experiments were performed for the first time in this country, and when they have been repeated times innumerable, to enter upon a new series, and publish an elaborate work on the subject.

It has always appeared to me that, if we examined the question by drawing inferences from the anatomical structure, and adopting, as our guides, certain acknowledged principles acquired from the same source, we might obtain conclusions, the truth of which the most sceptical could scarcely deny.

A few remarks will illustrate my meaning.

1. Reason alone suggests that a nerve of motion should be anatomically distinct from a nerve of sensation. As these influences travel in contrary directions —that which induces muscular action being propagated *outwardly* from the brain, and that which gives rise to sensation being conveyed *inwardly* to the brain— it surely appears highly probable, at least, that each property must belong to a distinct structure.

2. The ninth pair has long been considered a motor nerve. Let us inquire what has led former physiologists to form that opinion. This nerve supplies the tongue, an organ endowed with motion and with sensibility: but it is remarkable that it is limited in its distribution to the muscular substance alone, and that it avoids sending any of its branches to the surface, which is therefore supplied by a different nerve. Now this circumstance, viz. that the ninth pair is limited to the supplying of *muscles*, carries to my mind as distinct a proof that it is subservient to motion, and that it has been correctly called the motor of the tongue, as the origin and insertion of the biceps muscle of the arm do, that the action of its fibres is to bend the fore-arm on the arm.

3. If we observe the peculiar structure, and also the exact point of origin, of the ninth pair, we shall be convinced that it is in truth an anterior root of a spinal nerve. In no one character can we recognise a difference between them. In short, the ninth nerve is in every point of view like a spinal nerve, which is deficient in a posterior root. May we not therefore infer that the anterior roots of the spinal nerves have a similar function to that of the ninth pair: in other words that they are nerves of motion?

4. Guided by these views, which naturally lead us to the belief that the whole line of nerves from the ninth downwards, arising from the anterior column of the spinal-marrow, are subservient to motion, we look with natural curiosity to those nerves which originate from the same column prolonged into the brain.

The first nerve which meets us is the sixth pair, a nerve that goes to a muscle alone; the next is the third pair, which likewise goes to muscles exclusively. Now in the same manner as it was inferred from the distribution of the ninth

pair, that its function was to confer motion, so it may be concluded that these two nerves are destined for the same purpose. Indeed the fact cannot be forgotten, that to one of them the name *motor oculi* has been applied for centuries past. The course of observation hitherto pursued consequently leads us to infer, that the whole series of nerves arising from the anterior column of the spinal-marrow, from the third of the brain to the lowest nerve of the cauda equina, is destined for the giving of motor power.

So much for the uses of the anterior roots; let us next briefly attend to those of the posterior roots.

5. The fifth cerebral or tregeminus nerve is chiefly remarkable, in its anatomical character, for having an exact resemblance to the spinal nerves. This resemblance, it may be remarked, attracted the attention of anatomists, for some time before the recent discoveries in the nervous system were thought of. The peculiar character, which distinguishes the fifth from all the other nerves of the brain, is that it originates by two roots,—one of which corresponds with the anterior roots of the spinal nerves in having no ganglion upon it, while the other root has a ganglion exactly similar in structure to that formed on the posterior roots of the spinal nerves. Our line of argument, therefore, leads us to inquire whether, in the anatomical arrangement of the roots of the 5th pair, anything presents itself which can throw light on their distinct endowments. Now there is a circumstance in the anatomy of this nerve which is greatly in favour of our obtaining the desired knowledge. Instead of both its roots being of equal dimensions, that, which has a ganglion, is about four times as large as that which is without one; and the former can therefore be traced to many parts of the head where it is not accompanied by the latter. If we consider the lesser root, the analogue of the anterior roots of the spinal nerves, in the first place, and trace it to its destination, we find that it is distributed exclusively to muscles—it is the nerve proper to the muscles of the jaws. Indeed *Paletta*, resting on the circumstance of this root not going exclusively to muscles, so far anticipated the present views in regard to the physiology of the 5th, as to call this root a motor nerve, and to represent it as the nerve on which *trismus* depended. Accordingly, the observation of the simple distribution of this smaller root of the 5th sanctions the conclusion that, inasmuch as it resembles the anterior roots of the spinal nerves, and, I may add, the 9th pair, as well as the 6th, and the 3rd, in its structure, it is, in all probability, identical with them in function—namely, in being a nerve of motion.

I proceed next to the larger root, which from having a ganglion resembles the posterior roots of the spinal nerves; and will endeavour to show how far the distribution of its branches tends to elucidate the nature of its functions.

What principally strikes an anatomist, when surveying the course of the several great branches derived from this larger root, is that they supply numerous parts of the head where no muscles exist, and when there are only sensible surfaces. I will put aside as doubtful the branches which emerge upon the face, since the muscles of the features appear to be supplied by these branches in common with the portio-dura.

But taking other branches, we find that several pass to localities where no muscles are situated, and where of course we cannot suppose that nerves of motion should be sent. For example, we have the cavities of the nose liberally supplied with branches proceeding from the ganglionic root; we have branches of considerable size from the same origin going to the hard palate: branches of the same kind go to the teeth: and, lastly, there is a large branch, the proper destination of which is manifestly the sensible surface of the tongue.

These facts, coupled with the circumstances that the whole extent of the integuments of the head, (except a part behind, which is supplied by spinal nerves,) has branches of this root sent to them, afford by themselves strong presumptive evi-

dence that the office of the ganglionic root of the fifth pair is to confer sensation as distinct from motion.

Now, if the inferences stated above be thought justly deducible from the premises, they may be applied legitimately to the explanation of the functions possessed by the posterior roots of the spinal nerves. We are thus led to conclude that, as the function of the larger or ganglionic root of the fifth pair is to bestow sensation, so it is the function of the posterior or ganglionic roots of the spinal nerves also to bestow sensation.

In this simple manner have we been brought, without the performance of a single experiment on a brute creature, but by relying exclusively on anatomy as our guide, to educe the beautiful truth, that the anterior roots of the spinal nerves, including their analogues in the encephalon, are subservient to motion, and the posterior roots of the spinal nerves, together with the ganglionic root of the trigeminus, to sensation.

It cannot be questioned, then, that those physiologists deprive themselves of a valuable instrument in the prosecution of the inquiry, who, placing too great confidence in the plan of experimenting, refuse to take advantage of the mode of investigation which I have endeavoured briefly to illustrate. With reference to the roots of the spinal nerves, it is scarcely too much to say, that, had a course of demonstration similar to what I have here imperfectly sketched out, alone been followed, and if physiologists had waited patiently till cases occurred in practice—such as have actually been met with in very numerous instances—where the pathological phenomena confirmed the views deduced from anatomy, our convictions as to their distinct offices would have been as strong, as they are at this moment, after all the multiplied experiments which have been performed.

Yours truly,

ALEX. SHAW.

23, Henrietta Street, Cavendish Square,
25th January, 1842.

INAUGURATION OF THE STATUE OF BROUSSAIS.

There was something so truly national in all the "pomp and circumstance" of this grand solemnity, celebrated on the 21st of August last at the Military Hospital of the Val de Grace in Paris, that we are tempted to quote rather largely from the full report that was published at the time. Its exordium is *un peu* magniloquent.

"Three years have elapsed since the death of *Broussais*. The first of December, 1838, will ever be regarded as a great historical date. On that day science was struck in the head; that day beheld the extinction of one of the brightest intelligencies that have ever illumined the world; the nineteenth century suffered an irreparable loss, and France wept o'er one of her most glorious children."

The funeral, we are told, was truly grand; the hearse was transformed into a car of triumph; the procession through the streets of Paris occupied upwards of five hours; the great capital was awe-struck, and for a moment dumb with grief. Who can forget the moment when the bier stopped in the Place Vendome under the eyes of that other genius that hovers on the summit of its pillar of brass? There was something sublime in this salutation of the mighty dead!

In the hall of instruction at the Val de Grace, where the statue was erected, three large and decorated tents had been put up for the accommodation of the visitors, one being reserved for the ladies. In the centre was a desk or tribune for the orators who were to address the assembly. Every place was occupied long before the hour appointed for the commencement of the imposing ceremony

Groupes of soldiers were arranged round the tents, and the musicians had taken their seats. At two o'clock precisely, the various members of the commission arrived to the sound of trumpets, headed by M. *Orfila*, the president, in his crimson robes. Among the most conspicuous of the deputation was the noble and illustrious *Larrey*, who seemed to wear on his brow that magnificent appellation, "homme monument," applied to him by the emperor on his death-bed. "The moment of most intense interest has now arrived; anxiety is painted on every countenance; the trumpets are blown; and the veil, which had hitherto concealed the statue, is withdrawn. All the assembly rise at one instant; and, with clapping of hands, exclaim, "Voila Broussais!" There he is at home, in his own Val de Grace, among his friends, surrounded by his disciples and his children. He is seated in his arm-chair, attired in his robe-de-chambre, long trowsers, and slippers, such as we have so often seen him in his study." Our thoughts were involuntarily carried back to the time of our medical studies; we remembered the patient visit of the great physician; we saw him stop at every bed; we heard his voice ever mild and encouraging to his patients—for this man, terrible although he was in intellectual conflicts, this truly formidable dialectician, had his moments of most winning and almost infantine sweetness.

At times indeed, in the presence of a case, which demonstrated the truth of his doctrines and the perverse errors of his adversaries, his voice would rise, his mouth would assume that indescribable expression, in which anger, irony and contempt were blended together, and the patients would raise themselves up in bed to contemplate this man, who in their eyes seemed at the time a strange and almost superhuman being. His walk was quick, almost violent, but always dignified and sometimes majestic. When he wrote there was the same energy in his movements as when he spoke; the paper "criait" under his pen, held, as it was, in a hand of iron.

The first who addressed the assembly was M. *Passy*, the vice-president of the Academy of Moral and Political Sciences. He enumerated in a simple but affecting style the numerous claims of the illustrious deceased to public gratitude and admiration, and pointed out the share which he had so often taken in our recent philosophical disputes.

M. *Pariset*, the perpetual secretary of the Academy of Medicine, followed. His oration was certainly not such as was expected from so eloquent a speaker. The task seemed to have been any thing but a willing one; for, at the very commencement of his equivocal eulogy, he repeatedly spoke of *fulfilling a duty*. The greater part of his discourse was a dissertation on the immortality of the soul; and when, in the very face of the man whose death he rather burlesqued than deplored, he had the hardihood to say that *Broussais*, in his last hours, had acknowledged the truth of revelation, signs of disapprobation began to be expressed by the audience. M. *Pariset*, although an able man in his way, is a weak, timorous religionist, and was perhaps afraid of calling down upon his own head the thunders of the church for giving his public approval of an act, which may not be regarded as sufficiently orthodox by the ministers of religion.*

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* We know not why it should be, but the fact cannot be well denied, that most of the prominent advocates of phrenology have been and still are very lax in their religious principles. *Spurzheim* was a cold and doubting believer; *Broussais* was an utter sceptic; and M. *Bouillaud* seems to wear his religion very loosely. Alluding in the Academy to a recent visit at a large school, the pupils of which, after a due examination of their heads, were arranged in two groupes, one on the right side and the other on the left of the phrenological inspector, he said that the exhibition reminded him of the description of the day of judgment in Holy Writ; and that the comparison was the more striking from the circumstance that "many were called, but few were chosen"—the criminal develop-

M. *Bouillaud* then mounted the tribune as the representative of the faculty; and never was the inspiration of this ardent professor more lively or more attractive. He was deeply affected; his austere visage wore the expression of a feeling at once sad and triumphant. The recollection of a departed master and friend depressed, while the glory of the apotheosis elevated, his mind.

"Broussais!" he exclaimed, "thy day of judgment hath now come: and when I here solemnly proclaim that you were a man of genius, I feel confident that every listener will respond to my words, and that posterity will confirm their truth. Yes, it was you who laid the edifice of medicine on its proper foundation, and erected it upon the basis of anatomy and physiology. You have shed over the whole domain of our science the rays of the clearest light, by substituting for what you so happily designated 'ontology' the physiological doctrine of medicine, and by completing the work of the great *Bichat*. You have revealed one of the most important truths of medicine by demonstrating that essential fevers are only disguised inflammations; and you have conferred the most signal benefit on humanity by substituting the antiphlogistic for the stimulant and incendiary method of treatment in the cure of those monsters (to borrow your own energetic language) known by the name of ataxic, adynamic, and malignant symptoms. You have revealed another important truth—that diseases are not necessarily subject to the course and duration which have been assigned to them by your predecessors, but that these points in their history are chiefly dependent upon the mode and the energy of the treatment employed. (We suppose that this remark alludes to pyrexiæ in general, and more especially to the groupe of the exanthemata.) In fine, you have created a theory as just as it is ingenious and brilliant, tracing to a process of chronic inflammation a multitude of lesions which have been termed organic, and which before your time were considered as diseases *sui generis*, and independent of all inflammatory action."

Alluding to the fine statue before them, M. *Bouillaud* continued:—"There stands the great reformer of medicine in all the beauty and grandeur of his expression, in all his force, in all his vigour, in all his energy, in all his severity, and, if I may venture to say so, in all his hardy, resolute, and even threatening mien. There stands *Broussais* alive, his head filled with high meditations, with deep thoughts, with revolutionary enterprises; trampling under his Herculean foot those works of ontology on which he had passed so signal a condemnation. His look is bold, imperious, and confident; his mouth is slightly contracted, his upper lip quivering with that peculiar movement which was so characteristic of the great original. Listen, for it seems as if this statue, like that of Memnon, was about to give out an oracular sound." . . . . . "However, true honour to the *Phidias* who has represented so admirably the hero of this solemnity. The statue is truly worthy of the personage, and what can be said more in its praise? There is only one monument that can be more durable and glorious; and that it is the works of *Broussais* himself."

When M. *Bouillaud*, pointing to the statue of his master, uttered with his thrilling voice these "grand paroles," the whole assembly was visibly affected with "une emotion immense." The orator sat down among the most rupturous applauses, which drowned for a moment the sound of the trumpets!

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ments being good only in a small number! (Are the British phrenologists an exception to the preceding remarks? we fear not. Witness some of their recent works, medical as well as literary.)

No wonder that the novels and light literature of France in the present day should be often so defiled with blasphemy, when even scientific discussions are not exempt from its taint. One of their journalists the other day spoke of Napoleon as being "Christ armé!!"

M. *Begin* in the name of the military physicians and surgeons, then addressed the audience. It might have been expected that their attention would be rather exhausted by this time, three orations having been already pronounced; but this was so far from being the case that his discourse may be regarded as quite a triumph to his professional brethren of the army. In the latter part of his "sommeil panegyrique," he thus nobly vindicated the claims of *Broussais* to the admiration of posterity:—

"At the time of its appearance, his work entitled 'Examen des Doctrines Medicales' was regarded as an enormous reproach to the profession—the press was then afraid of having anything to do with it, and it would perhaps have sunk into oblivion at once, in the coalition of silence that was formed against it, if some young men, who, like *Broussais*, had recently returned from the army, had not seized upon it and proclaimed to Europe the prodigious grasp of the ideas which it contained. These youthful apostles of the new religion had neither the power of thought, the loftiness of the conceptions, the richness of the reasoning, nor the treasures of the experience of their great master; but their enthusiasm was kindled by the fire of his discourses; they were led on by the love of truth; no obstacle alarmed them; and they were animated with the belief that they might aid the giant in moving the world.

A multitude of chronic diseases, the origin and true nature of which had been either completely unknown or greatly misunderstood, were traced to the principle of irritation. This principle vigorously defined and illustrated in its various modes of action, was shewn to be the main key of the medical edifice.

The symptoms of diseases no longer served for the purposes of classification, but were studied with a view of discovering what organs were affected, and of determining the nature of their morbid state—a mode of proceeding which overthrew the various nosologies which had been based upon mere external phenomena. Hence the physician, in the selection of his remedies, came to be guided, not by the apparent strength or weakness of the patient, but by the real condition of the diseased organs.

The occult principles, the characters of diseases independently of the organs affected, and all the phantasmagoria of ontology were exposed, attacked, and destroyed.

One entire class of diseases, perhaps the most numerous and important of all to which mankind are subject, that of essential fevers, comprehending epidemic and endemic pestilences, has been effaced from the nosological catalogue, studied in all its parts, and grouped among the inflammatory lesions of different organs.

The phlegmasiæ of the stomach and bowels were described for the first time, in a variety of shades, with so much exactness that it seemed as if they had never been known to medical men before.

Everywhere anatomy was made to serve as the basis of physiology, and physiology was appealed to to explain diseased functions; thus the study of actual facts was substituted for the reveries and illusions which had so long prevailed in almost every branch of medical science.

The reform which this great man has introduced into therapeutics, has not been sufficiently appreciated. Without rejecting really efficacious remedies, it was he who struck with the anathema of his denunciation the incendiary abuse of stimulants, and that absurd routine which prescribed evacuants at the commencement of many acute diseases. He had no faith, it is true, in certain formulas, nor in the use of any panacea or specific remedy. He did not look upon the stomach as an inert vestibule from which the various substances, which the physician might choose to introduce into it, could find their way by some special election to their wished-for destination; he did not believe in the occult virtues, or in the medicative powers ascribed to many of the articles of the Pharmacopœia; but he pointed out the necessity of watching the real impressions which they produce on differ-

ent organs, and of ascertaining their local effects, their secondary influences, and at length their curative properties. Now true science will always follow such a course, and we cannot lose sight of these principles without at once yielding the place to empiricism."

After the close of M. *Begin's* discourse, which was received with frequent acclammations of applause, M. *Fossati*, the president of the Paris Phrenological Society, rose to address the audience. He mentioned that, in 1829, the year in which *Gall* died, *Broussais* was not a phrenologist: "it is not one of the least titles of his glory, as it is not one of the least proofs of his genius, that, in the full maturity of his age, and when occupied with his multifarious professional pursuits he entered upon the study of a new science, and pursued it with so much diligence and success, that he soon enlarged its domain."

The close of M. *Fossati's* oration was singularly happy. Addressing himself to the students in the hall, he exclaimed, "It is not for *Broussais*, it is for you that this statue has been raised. It is less as an homage to him, than as an example for you." These beautiful words were rapturously cheered.

The whole assembly then rose, and individually approached the statue, thus closing, by an unanimous expression of homage, this "magnifique ovation."—*Gazette des Hôpitaux.*

Remarks.—It is not likely that the custom of pronouncing "eloges" over the graves of distinguished characters, or when any public monument is erected to their memory, will ever be adopted in this country. There is an admixture of the theatric display of modern times, and of the superstitious absurdities of the old classical ages, in such ceremonies, that does not recommend them to our ideas of what is either right or impressive.

The moment of committing a fellow creature to the dust is rather too solemn and humbling to listen to pompous declamations on his greatness and glory: we prefer the simple and touching eloquence of our Liturgy. But the French view the matter in another light.

They are especially fond of imitating the Greek and Roman usages on all occasions when they wish to be more than usually grand. Their tragic literature is almost all "classique;" so is their school of painting. They have their Pantheon; they have their Temple of Glory; they have their Elysian Fields, &c. &c. and it is, therefore, quite natural that the funeral obsequies of their great men should be "after the high Roman fashion." Unfortunately they attach so little importance to moral integrity or to practical religion, that those graces of character are seldom or never alluded to in their panegyrical discourses; and we have seen, in the case of the inauguration of *Broussais's* statue, that if any one should be so bold as to make reference to such matters, he is at once checked by the disapprobation of the auditors, who naturally wish to keep all the defects in the character of their idol in the shade. *Broussais* was both an immoral and an irreligious character. He was a materialist in his belief, and a shameless libertine in his conduct. Even as a man of science and a physician, his example is by no means one worthy of very high eulogy.

In spite of all that MM. *Bouillaud* and *Begin* and other disciples of the "great reformer," may say to the contrary, it is too obvious that, even in France, the edifice of the Broussaian doctrine is rapidly beginning to pass away, and is destined soon to share the same fate with all other exclusive theories in medical science. How *Broussais* can be regarded by any one as the legitimate successor of *Bichat*, who declared that "every exclusive doctrine whether of solidism or of humorism is a pathological absurdity," puzzles us to comprehend. That he has done good to medicine in his day we are far from disputing; and we readily admit that, by directing the attention of the physician to the important part which chronic inflammation plays in the establishment of many organic diseases, he has contributed to introduce a rational mode of opposing their development and progress.

On the other hand, a vast deal of error and positive mischief has been the result of his dogmatical explanation of the phenomena of fevers. The constant burden of his song was "gastro-enterite;" and many we suppose, were induced to assent to it only from the ceaseless dinning into their ears of this far-famed word. Medical men are surely the most credulous mortals in the world. How they could bring themselves to believe that all the phenomena of typhus fever are traceable to a slight inflammation of the mucous coat of the stomach and bowels, and this, too, even when perhaps not one symptom of such an inflammation is present, may well surprise the most ignorant; and yet, in the present day, there are not wanting men of good education and experience who continue to vaunt this as one of the grandest discoveries of modern times. Little is the wonder that the treatment of fever is so ill understood, as it certainly is, more especially among the physicians of the French school. One teacher recommends the use of brisk purgation, and another condemns the practice; one continues to bleed all his patients, and boldly tells you that almost every one of them recovers, but when you come to examine his statements, you probably find that more than one half of his cases of alleged typhus seems to have been nothing but instances of feverish malaise from cold and fatigue; a third gives frequent doses of chloride of lime; while a fourth does nothing at all, and, by merely "waiting upon Providence," succeeds quite as well as his more unbelieving brethren, who must ever be up and doing. We do sincerely hope that the admirable researches of M. *Andral*, on the state of the blood in various acute diseases, may soon have the effect of introducing a better state of things into therepeutical science. They are well calculated to do so; and, however humbling it may be to the pride of the nineteenth century, to find that our improved means of scientific analysis are tending to bring back many of the long-exploded doctrines of our ancestors, while they expose the fallacy of more recent speculations, the sooner we shake off this pride the better. For our own sakes we have been so long impressed with the truth of many of the principles of a humoral pathology, that we gladly hail, and shall strive to second the efforts of M. *Andral* to introduce among his countrymen more correct views on the effects of the changes which the blood undergoes in disease; for we feel confident that, while the so-called physiological doctrine of fevers must soon be committed to the tomb of all the Capulets, that, which is based on an attentive examination of both the fluids and the solids, is the only probable and truly satisfactory one.—(*Rev.*)

M. Louis on Typhoid Fever.

We observe by the French journals that a new edition of M. *Louis'* well-known work on this subject has recently been published in Paris. Its title deserves notice: *Recherches Anatomiques, Pathologiques et Therapeutiques sur la Maladie connue sous les Noms de Fievre Typhoid, Putride, Adynamique, Ataxique, Bilieuse, Muquese, Gastro-enterite, Enterite, Folliculeuse, Dothinenterie, &c. comparée avec les Maladies Aigues les plus ordinaires!* Does not this alone indicate how bewildered the ideas of medical men must still be on the all-important subject of fever? We had almost hoped that M. *Louis* would by this time have found reason to modify his opinion as to the seat or proximate cause of typhoid fever being in the intestinal canal; but we find that we are mistaken. He still maintains, and even in more decided terms than ever, that the anatomical character of the typhoid affection (a very stupid phrase) consists in a morbid alteration of the intestinal, chiefly the Peyerian, glands; and, also, that any secondary lesions are very usually of an inflammatory nature."

This doctrine is a most fallacious, and unfortuuately at the same time a most hurtful one. While we admit that the intestinal lesions seem, from all accounts,

to be of much more frequent occurrence in fever as it occurs in France, than as it is seen in this country, we most confidently deny that they are uniform or constant even in the former case—at least if we can trust the testimony of such men as *Chomel* and *Andral*. But even admitting the frequency of intestinal lesions in fever, does it necessarily follow that they are the consequences of simple inflammatory action, as asserted by *Broussais*, *Louis*, *Bouillaud*, and others of this school? Do we observe the same phenomena on dissection in typhus as are found in fatal cases of genuine enteritis? Assuredly not. The patchy redness in different parts of the canal, the tumified and softened condition of the mucous and submucous tissues, the enlargement, ulceration and even sphacelation of the follicular glands, &c. cannot surely be admitted as the legitimate evidences of a pure phlegmasia. They might rather be regarded as the results of the irritation of unhealthy acrid secretion on the mucous surface than as the primary and essential phenomena of the disease. But without going so far as this, we have no hesitation in asserting that the intestinal lesions, however frequent they may be in the fevers of Paris, can only be viewed as one of the several changes induced by the general disease of the system. To apply the term of *enteritis* to such lesions is not only incorrect in theory, but most pernicious in practice. It has been from the too general adoption of this dogma by the present generation of medical men in France, that so many and so serious errors have been committed by them in the treatment of their patients. When we read the grave discussions that are frequently agitated in the Academy of Medicine of Paris, on the results of some novel mode of treating typhoid fever, what are we to expect from the young surgeons and physicians who are annually drafted away either to the country, or perhaps into the army and navy, immediately after having had their heads crammed with the "nouvelle doctrine" as taught by the professors of the physiological school!

Part of M. *Louis*' work is taken up with shewing that "jail-typhus and typhoid fever are identically the same disease." What rational man ever doubted it? But such are the vague opinions of French medical men on the subject of fever, that M. *Louis* deems it necessary to devote an entire chapter to prove a position, which has been recognised as an acknowledged truth by British practitioners ever since, and indeed long before the days of *Huxham*. But then it is at the same time well known that almost every epidemic of fever, whether it appears in jails or other crowded buildings, or in the lanes and dirty alleys of a city, exhibits some peculiarity or another by which it may be characterised; and yet no sensible physician would dream of designating one epidemic as cephalitis, another as bronchitis, a third as gastro-enteritis, merely because the predominant symptoms may be at different times seated in the head, chest, or abdomen. Until medical men can be induced to carry their thoughts beyond the more obvious lesions discoverable on the dissection of patients who fall a victim to typhus fever, they will ever remain involved in a labyrinth of perplexities, which will only be increased by a more extensive acquaintance with the disease. A calm unprejudiced examination of the history of typhus must lead every one, we are inclined to believe, to the conviction that it is the result of an invisible atmospheric agent—call it miasm, malaria, matter of contagion, or what you will—on the human body, acting primarily on the nervous system, and often rapidly absorbed into the system, thereby inducing a more or less decidedly vitiated state of the circulating fluids.

The lesions of the viscera, whether of the cranial, or of the thoracic or abdominal cavities, are all secondary or consecutive phenomena of the disease: their occurrence being attributable either to the cotemporaneous influence of other atmospheric agencies, to the idiosyncrasy, habits, and previous state of health of the patients affected, or perhaps to the differences in the nature and degree of the aerial poison that has been introduced into the system. We must admit

that, in taking this view of the question, there are many points that cannot be demonstrated by actual proofs, and that the theory is essentially based upon a mere probability; but let us remember that there is, and ever will be, much in the history of diseases, especially those of an epidemic and diffusive character, that must defy the scrutiny of human observation: we cannot *exhibit* the infectious poison of scarlet fever, or of measles, or the miasms which give rise to intermittent or remittent fevers; and yet no one disputes their existence. It is therefore a very insufficient reply to be told that we cannot demonstrate our theory of the disease. Some modern French writers are constantly trying to make us believe that medicine is capable of being rendered an *exact* science, and that we must not admit any position in our reasonings on disease but what can be proved by actual observation. This is a most foolish and dangerous doctrine. As in moral and political philosophy, so in medicine, there are no permanently fixed and unalterable rules which are inevitably true at all times and under all circumstances. The beauty of a moral precept or the expediency of a political maxim may charm the mind in theoretical speculation; but in our practical dealings with the world, we find, alas! that the line of conduct to be adopted must greatly depend upon the circumstances of each case—ever striving however to act on the principle of doing unto others as we wish them to do unto ourselves.

Dr. *Landouzy* of Rheims, the reviewer of M. *Louis'* work in the French Medical Gazette, states that his own experience in the late epidemic of jail-typhus in that town confirms the opinion that it is analogous, if not identical, in nature with the typhoid fever of the metropolis, and he bases his opinion on the circumstance of the *constant* existence, in all cases and at all periods of the disease, of the intestinal lesions in both forms of the fever. Yet, strange to say, he informs us that in no case were there any symptoms of such lesions during the life: "la diarrhée, la douleur abdominale, le meteorisme et le gargouillement ne se sont jamais rencontres." How can Dr. *Landouzy*, or any other sensible man, in the face of such a statement as this, continue in the belief that the disease, in which these symptoms were absent, was an inflammatory affection of the mucous coat of the bowels; in other words, that it was a "gastro-enterite," or "dothinenterie." He suggests, as a novel idea, that the difference in the symptoms of typhus fever in different times and seasons may be connected with some difference in the type or genus, as he calls it, of the disease, and very coolly remarks that "the observations of authors on this point of pathology having in truth but little or no value until the 'beaux travaux' of M. *Louis* have become generally known, we must wait for new epidemics of typhus before we can offer a positive opinion upon the subject."

Has Dr. *Landouzy* never heard of *Sydenham* or *Huxham*, or of *Cullen*, or of his own countryman *Pinel*, not to mention a century of other authors, who have all insisted upon this essential fact connected with the history of fevers—the differences in the character of the disease according to what has been demonstrated the "medical constitution" of the season? Little is the wonder that the French are making discoveries in medicine almost every day: they seem to be utterly unaware of their own well-expressed motto, "nothing is so new as that which is forgot!"

The therapeutic portion of this edition of M. *Louis'* work has received, we are informed, "d'immenses developpemens;" but the reviewer does not tell us particulars; all that he says is, that "the author *seems* to prefer in the greater number of cases the use of evacuants to any other remedies." The little word *seems* (semble) implies, if we are not much mistaken, a mighty deal in reference to M. *Louis'* mode of treatment. It is well known that this gentleman, however high he may be regarded as a morbid anatomist, cannot be appealed to as an authority on practical subjects. Some years ago, as we have noticed in a former article, he made the important discovery that blood-letting and blistering had

little or no efficacy in subduing pneumonia! He has probably extended the application of this discovery to the treatment of fevers, and may have found out that by far the best mode of managing them is to do nothing.

In this respect his example offers a marked contrast with that of M. *Bouillaud*, a disciple of the same pathological school, whose "grande decouverte" is the "nouvelle formule" of bleeding "coup sur coup," so as to "juguler" the disease at once!! But we trust that it is quite unnecessary to expose the fallacy of this gentleman's views at present, as we have so repeatedly of late years cautioned the English reader against the errors into which he is apt to lead the inexperienced by the bold and confident manner with which he proclaims his marvellous success.

M. ANDRAL ON THE CHANGES OF THE BLOOD IN DISEASE.

To complete our account of this eminent pathologist's recent researches on this highly interesting subject, we have extracted his observations on the different temperaments of the human body, as they are observed in different individuals.

A medical man should be well acquainted with this point, as the success of his treatment in a variety of diseases will much depend on the adaptation of his remedies to the peculiar constitution of each patient. The subject deserves the attention of the moral philosopher likewise in his appreciation of human character; but we cannot enter into this question at present, although it is far from being foreign to the pursuits of the scientific physician.

Sanguineous Temperament.—According to the researches of MM. *Andral* and *Gavarret* it would seem that the common notion that the blood in persons of this temperament contains a larger quantity than usual of its solid or fibrinous constituent is not strictly correct. There is but little increase in the proportion of this element; whereas that of the red globules is generally very considerably augmented—from 127 to 135 or 140 parts in 1000. If we examine the blood of such persons before it coagulates, it is found to be of an extremely bright red colour. The clot is usually large, from the retention of a large quantity of the serum in its meshes; but its consistence is not greater than in health; and often it is even less. One of the chief characters of this blood is that *it very rarely exhibits a perfect buffy coat*—although the very contrary opinion is so generally asserted. This circumstance is owing to the small proportion of the fibrine in comparison with that of the globules, which, as we have said, are predominant.

In persons of the sanguineous temperament, all the functions of the body are usually performed with great activity; life, so to speak, is in excess; and this excess is proportionate to the increase of the red globules. The digestive process goes on rapidly and efficiently; the respiratory apparatus is largely developed; and the minute capillary vessels are always more highly injected than in persons of other temperaments. The heat of the body is high; the perspiration is easy; and there is an abundant secretion of deep-coloured urine, which usually contains a large quantity of saline matter. The energies of the brain are easily exalted; the passions are quick, and vehement; and yet the sensibility is by no means excessive, and never so acute as in persons of the nervous temperament. Hence the class of diseases known by the term *neuroses* is not common in plethoric individuals. It would seem that, as the proportion of the red globules increases, so the sensibility of the system diminishes, and *vice versâ*. An extreme and morbid acuteness of the nervous system is well known to be a characteristic symptom of chlorosis and anæmia.

The pathological conditions of most frequent occurrence in plethora are *congestion, hæmorrhage*, and fever. Genuine inflammation is much less frequent; *we might* even assert—in opposition indeed to the generally received opinion—

that *plethoric persons are not more liable to the phlegmasiæ than those of other temperaments*. From the very circumstance of the globules being in an increased proportion, the normal relation between the proportion of this element and that of the fibrine is disturbed, and the consistence of the blood is rendered actually less than it is in health. Blood-letting, from its marked influence in reducing the proportion of the globules, always speedily relieves the diseases arising from plethora; its influence on the fibrine is much less decided and speedy.

The Lymphatic Temperament and Anæmia.—The general fact to be mentioned in reference to this temperament is the diminution of the physical forces, and an enfeebled state of many of the functions of the body. There is usually a strong disposition to the development of scrofulous disease. M. *Lecanu* has stated, and M. *Andral* confirms the opinion, that the proportion of the red globules is always low in persons of this temperament. The surface is usually pale and puffy; the iris exhibits a more than ordinary clear hue; and the pilous system is but little developed. When any phlegmasia occurs in scrofulous persons, it proceeds in its course slowly, and less readily to resolution—a termination which is always long of being fairly established, and is apt to be interrupted by a variety of accidents.

The lymphatic temperament, when much exaggerated, leads, as we have already said, to the development of scrofula; the anæmic to that of chlorosis. In spontaneous or idiopathic anæmia, the proportion of the fibrine is often but little diminished; but, in that produced by great hæmorrhages, the blood is always deficient in this element. The proportion of the globules is sometimes remarkably diminished; it has been known to fall from 127—the normal standard—down to 40, and even as low as 27.

Although all the physical functions suffer, whenever there is any considerable diminution of the red globules the energies of the brain are often surprisingly little affected; the sensory functions are usually exalted; and the activity of the mind is not unfrequently increased. But the digestion is always more or less disturbed, and the patient often suffers exceedingly from one of the most severe and intractable forms of gastrodynia,* as well as from headaches and confusion of the sight, and of the other especial sensations. The actions of the heart and lungs, too, are very frequently more or less severely deranged. Every practical physician is well aware how much anæmic patients usually suffer from violent palpitations, and that the tictac of the heart is often accompanied with a blowing sound, such as is heard in cases of contraction of the arterial orifices. The blowing sound may be either constant, or it may be intermittent. The smaller that the proportion of the red globules is in the blood, the more constant this abnormal sound generally is.

It must, however, be admitted, that exceptions are sometimes met with to this assertion; and that, in some rare instances, where there has been no deficiency of the red globules, and no existing organic disease of the orifices of the heart, the blowing sound has been heard. . . . . .

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* Change of air and the use of steel are unquestionably the best remedies against this form of the disease in most instances. We recently had a very interesting case, occurring in a delicate, pale, phlegmatic woman, of about 33 years of age. She had been subject to the complaint for *several years*, with occasional intermissions, as a matter of course. Anodynes, bitters, alkalis, blisters and a host of other remedies had all failed. Carbonate of iron was freely given in large doses; but without success. We then ordered the *genuine* steel wine—prepared by digesting two ounces of the filings in a bottle of the best sherry—in doses of an ounce three times daily. The benefit derived was very speedily marked: and the relief has now continued for four or five months.—(*Rev.*)

Of the Blood in Fevers.—We do not mean to recapitulate the details of M. *Andral*'s numerous experiments on this interesting subject of humoral pathology, as we have dwelt at sufficient length upon it in the three last numbers of this Journal. All that we shall do at present is to pick out a few of his most interesting remarks, with the view of shewing how convincingly the study of the changes of the blood in disease demonstrate the fallacy of those opinions which have so long reigned paramount in the French school of medicine. It is fortunate for M. *Broussais* that he has not been spared the chagrin of seeing his favourite edifice crumble before the well-laid approaches of his great rival. We have been looking for the last twelvemonths to discover what M. *Bouillaud* and the other zealous advocates of the so-called physiological doctrine say of these doings in the French metropolis; but not a word is uttered, or at least made public. Are they reserving all their strength for some grand attack after the lectures of *Andral* have been completed? or is it really the case that they feel their ground untenable, and like wise generals are securing their retreat in silence without unnecessarily provoking the attacks of the advancing army?

The following brief paragraph will shew how completely their very centre has been pierced through in the conflict that has of late taken place. After alluding to the division of fevers into those that are idiopathic, and those that are merely symptomatic, M. *Andral* says: "Idiopathic fever may exist, 1, without any appreciable lesion of the solids, or 2, with a well-characterised lesion, but which however is not the cause of the disease. The carbunculous tumors and bubos in the plague, and the ulceration of the intestinal glands in typhus are, in my opinion, the effects of a cause which to me is yet unknown."

When a fever is symptomatic of a genuine inflammation, the proportion of the fibrine in the blood is increased; but when it is not, there is no increase of this element. Now the quantity of the fibrine is certainly not increased in typhus, unless indeed an accidental inflammation of some internal organ supervenes during the progress of the disease.

In reference to the cutaneous phlegmasiæ of eruptive fevers, M. *Andral* remarks:—

"A fever may shew itself at the same time as certain inflammations: these cannot be said either to have preceded or to have complicated it; they were generated with it, and constitute one of the essential elements of the disease. Of this nature are the phlegmasiæ of the skin in small-pox, scarlet fever, and measles; these lesions, *which are perhaps erroneously regarded as inflammatory*, have not the effect of causing an increase in the fibrine of the blood as genuine inflammations have. The same is the case with the lesions found in the intestines of those who die from typhus fever; for these pretended inflammatory ulcerations have certainly not the effect on the blood alluded to."

Some continued fevers are attributable to an over-richness of the blood. The synocha, which usually lasts for a few days, is of this character. The term "over-richness of the blood" is certainly one that is vague and even incorrect, if it is meant to imply a superabundance of its fibrine; for in truth there is no increase of this element, but only of the red globules. When *Pinel* published his Nosographie, no reference was made by him to the part which the fluids of the body play in the production of diseases; he placed the seat of what he called "angeiotenic fever" in the blood-vessels themselves;* by his successors it was transferred to the stomach and bowels.

Some authors have given it the appellation of "fever from plethora," or "hy-

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* Some authors have treated it under the appellation of *angeio-carditis*, and *Tomassini* has denominated it *angeioitis*. Such terms cannot be too soon banished from medical language, as they convey an utterly erroneous view of the disease.

peremic fever"—thus substituting the idea of a humoral origin instead of one that has a reference to any affection of the solids.

In the early stage of other pyrexiæ, such as typhus, measles, scarlet fever, &c. we not unfrequently observe such an inflammatory fever, in which there is a superabundance of the red globules in the blood—a state of the circulating fluid, be it remembered, which does not exist in the genuine phlegmasiæ.

But it is to be borne in mind that there is not any uniform or constant change in the proportion of the red globules in genuine continued fever; it may co-exist with an excessive, or with a normal, or with a defective proportion of this constituent of the blood. We have already said that the proportion of the fibrine is seldom or never increased in the uncomplicated pyrexiæ: frequently it is diminished; and the gravity of the fever is often proportionate to the amount of diminution."* How different from the phenomena presented by the blood in genuine phlegmasiæ, even when they have continued for a considerable length of time, and in spite of blood-letting, low diet and other depletory remedies! "*The organism*," adds M. *Andral*, "*in the typhoid state exhibits conditions the very opposite to those which characterise inflammation.*

The congestions of internal viscera, which are so apt to take place during the progress of certain continued fevers, are very generally connected with—we do not say dependent upon—a change in the relative proportions of the fibrine and red globules of the blood, the former element being very generally in a deficient ratio. The same remark is applicable to the occurrence of hæmorrhages during the course of fevers. These two phenomena—congestion and hæmorrhage—are seldom or never observed in the genuine phlegmasiæ.

It is surely quite unnecessary to adduce further proofs of the essential difference between this class of diseases and the pyrexiæ or the genuine fevers.

In conclusion, let us observe that, while we thus insist upon the importance of attending to the various alterations in the fluids which either induce, or are induced by, these as well as various others of the long catalogue of fleshly ills which man is heir to, we by no means wish to undervalue the importance of the pathological study of the solids.

All that we aim at is to impress upon our readers the necessity of a careful examination of both. *Bichat* has strongly stated this truth when he said that, "every exclusive theory of solidism and of humorism is a real pathological absurdity (un veritable contresens pathologique)."

M. Double on the Study of the Greek and Roman Medical Authors.

At the *séance* of the Royal Academy of Medicine, on the 11th December last, M. *Fred. Dubois* read a learned disquisition on the life, writings and doctrines of *Galen*. The interest, with which this paper was received, has excited criticism

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* Physicians must be on their guard not to be misled in estimating the relative proportions of the elements of the blood by merely noting the bulk of the coagulum, and its relative size to the quantity of the serum. We not unfrequently observe an unusually large clot in the blood drawn from a patient affected with typhoid or other fevers: but then it is almost invariably looser and less consistent than in health. The very deficiency of the normal proportion of its fibrine is the cause of this phenomenon; the more fibrine that is present, the greater is the disposition of the coagulum to contract firmly and expel all the serosity from its meshes. On the contrary, when it is deficient, a more than usual quantity of the watery portion is retained.

from a variety of quarters, both in and out of the Academy, and has prompted one of its oldest and most distinguished members, M. *Double*, whose voice is too seldom heard in public, to address to the author a letter, as remarkable for the elevation of its sentiments as for the finished courtesy of its style. It is always well to listen to the advice of the *chefs* of the profession, and especially of such a man as M. *Double*, who, without having ever engaged in the stormy disputes of the day, has achieved for himself the very highest reputation, alike for great practical skill and for literary attainments.

He has long occupied the president's chair of the Academy, and was lately offered, we believe, the dignity of a peerage by his sovereign.

After some complimentary expressions to M. *Dubois* for having drawn the notice of the profession to "those studies which," he says, "are altogether to my taste, and have rendered many important services to my long medical career," he proceeds:—

"It is in an especial manner the attentive study of the ancient authors that the present generation is deficient in. On every subject which appertains to the general interest of life, the enlightened man will find much in their writings to interest and instruct him. With your tone of mind so eminently critical, and I use this word in its most agreeable acceptation, with your ardent assiduity, and with your love of science, you will open up the classical works of antiquity to the generous youths who are advancing to the sanctuary of medicine. You will speak to them longer and with a loftier and more authoritative voice than I can hope to do, and you will teach them not only how much may be gained from the study of the ancients, but also how much may be lost by neglecting this study. We may draw from the moderns our first and our principal instruction, but let us not forget to refresh ourselves occasionally, nay frequently, at the pure fountains of antiquity,

Comme on boit d'un vin vieux qui rajeunit les sens."

M. *Double* is an ardent admirer of the father of medicine.

"Before the time of Hippocrates there seems to have been nothing but some empirical notions of the art, and some bizarre systems of a philosophy calculated rather to seduce from, than to lead on to, truth. A vast number of scattered observations, and a multitude of individual reports, constituted the knowledge of these days; and it was from these chaotic materials that his genius made our science spring forth. We may therefore say, with Theophilus, that Hippocrates has been the Prometheus of medicine.

Availing himself of all the useful observations preserved in the temples and traditions as handed down to him by his predecessors, he set himself to the task of comparing them with the results of his own observation; and from this two-fold source he deduced those truly beautiful sentences, and those pregnant maxims of profound truth, which all future ages have admired in his astonishing work '*De Aere, Aquis et Locis*,' and also in the treatise on epidemic diseases, that rich model of clinical observation illustrated with all the loftiest powers of intellect, as well as in many of those aphorisms which, by their matter and their style, are of an almost prophetic excellence."

After alluding to the valuable observations of the Coan sage on different points in physiology, M. *Double* dwells with great emphasis on the importance of many of his precepts of general pathology.

"His genius anticipating, and, as it were, improvising the results of experience, has unfolded the two-fold doctrine of the medical constitutions of the seasons —*the defective study of which Science has had so much cause to regret in the present day*—and of the agency of epidemic influences, illustrated by a numerous collection of individual observations: an important groupe of facts, the like of which is not to be found in the writings of any physician during the next 600 or 800 years.

Hippocrates has beautifully shown that the enucleation, so to speak, of a disease is completely obtained only when the physician has succeeded in discovering its seat, nature and individuality. When this is once accomplished, the true indications of treatment and the most appropriate means to effect this object are readily appreciated by the intelligent physician. These views led the founder of medicine to the distinction of the natural methods of treatment. By studying with great assiduity and skill all the active powers of Nature, or in other words the aggregate of the living functions, in the cure as well as in the production of diseases, he pushed very far our knowledge of the natural methods, and thus prepared the elements of the solution of that vast and important question, viz: to determine in what cases the cure is an effect or product of art, and in what it is a necessary act of nature itself."

Certainly one of the most valuable parts of the Hippocratic writings is that devoted to the exposition of the influence of seasons, climates, age, habits, sex, &c. on the human constitution, and of the necessity of watching and consulting such influences in our management of diseases.

"The old doctrine of temperaments," says M. *Double*, "in my opinion every day more and more rich in clinical applications, and which the experience of ages may modify, extend and improve, but will never overthrow, and the doctrine of diatheses and cachexiæ, a natural deduction from the preceding one, are entirely attributable to Hippocrates. Both are still standing with all their solid instructions and useful applications, in spite of the numerous attacks which they have had at different times to sustain—like those old ruins of Greece and Rome, which, though worn by time and damaged by the hand of man, are still daily visited by the most distinguished artists as models for their guidance and imitation."

M. *Double* gives a rapid and animated picture of the great merits of *Galen* as an anatomist, physiologist and practical physician. So admirable indeed are many of his descriptions of the various organs of the body, not only in man but also in the lower animals, that *Cuvier* confessed that he was utterly surprized and astonished on the first perusal of his writings, and, in his eloquent eulogium on the physician of Pergamus, went so far as to prefer him even to his great model and master, Hippocrates.

Among other remarkable points we may mention that *Galen* was aware that the size of the temporal muscles in animals is strictly proportionate to the hardness and tenacity of the food on which they live; that the number, the form, and the arrangement of the teeth are in a sort of relation or harmony with the other organs of nutrition and with the *ensemble* of the animal frame; that the heart is double in warm-blooded, and single in cold-blooded animals; that the brain is alternately raised and depressed, and that these movements are dependent on the respiration. His descriptions of the muscles, nerves and vessels is often wonderfully exact. He has started the question, so keenly discussed of late years, as to the distinction of the sensory and motory nerves; he knew that the arteries contained blood and proved this by actual experiment, and also that the veins and arteries communicated with each other—and yet, strange to say, he did not anticipate the circulation of the blood. Who has not read or heard of the beautiful and eloquent description of the hand and foot of man by Galen? of the hand especially, that organ placed in advance of all the other parts of the body as a defence and safeguard, that potent aid of genius, that minister of tenderness and cruelty, that instrument of peace and of war, that agent of creation and of destruction! In a transport of admiration at contemplating these marvels of an Almighty power, he closes his description with these words: "These are the hymns which I have composed in honour of the great Creator of the Universe."

Galen had deeply studied the writings of Hippocrates: he copied, translated, and annotated them. The work of the former, *de locis in homine*, may be viewed as the preface of the beautiful treatise *de locis affectis* of the latter; and in some

editions of their works published together, this arrangement is followed, the one being placed immediately before the other.

"I have recently," says M. *Double*, "re-read this treatise of *Galen's* with studious attention; but I must confess that I have not been able to discover in it that spirit or character which you (M. *Dubois*) attribute to the author. You make Galen a *localiser;* but this great statue of antiquity, it seems to me, ill accords with the puny proportions you have given him. Every one acquainted with his writings has agreed in admiring the justness of the comparison which the physician of Pergamus has drawn between the animal frame and the forge of Vulcan, in which, according to the Homeric fiction, all the instruments instinct with a Divine power, spontaneously moved in the order and with the force required for the work to be done. In this beautiful passage I do not find either the spirit or the language of the localising philosophy of the present day. Similar parts, similar diseases, similar medicaments; the disarrangement in the mutual proportion of the four elements of the body, and the excess of one or of two over the others; alterations in the number, the figure, or the form, the quantity and the situation of the different parts; these are the bases of the doctrine inculcated in the treatise *de locis affectis*—a doctrine which, by the subtle divisions and the speculative opinions it has sought to establish, is aptly criticised in these words of *Boerhaave:* 'multum profuit, multum nocuit.'"

M. *Double* draws an ingenious comparison between Hippocrates and Galen, awarding the palm of superior merit to the former. *Cuvier* had been led, from his insufficient knowledge of the strictly medical writings of the two sages, to adopt an opposite opinion; but the grounds for his preference are obviously attributable to his having almost exclusively studied the anatomical descriptions of the physician of Pergamus; and every one must acknowledge that, on this score, the judgment of *Cuvier* is quite correct. But let it be remembered that six hundred years had elapsed between the death of Hippocrates and the birth of Galen, and that, during this long interval, the human mind had been continually advancing; for centuries are to mankind in general what years are to the intellect of each individual.

"You have said, with truth, that in the writings of Hippocrates we meet with the doctrines of irritation, dogmatism, and empiricism; but it is precisely because we find the germs of all these systems, that none of them can be said to be characteristic or predominant. Faithful to rigorous observation and to reasoning still more severe, Hippocrates has nowhere given his name to any exclusive doctrine. On the contrary, who has not heard of Galenism and its consequences! As long as this system ruled in the schools, and in the practice of medicine, science remained stationary or even retrograded, whereas, when guided by the influence of the Hippocratic doctrines, it has uniformly advanced. The genius of the one sage was calm, severe, and contemplative; that of the other was subtle, brilliant, and discursive."

ON SOME OF THE MOST IMPORTANT DISCOVERIES OF GALEN.

M. *Dubois*, in his reply to the letter of M. *Double*, applies himself chiefly to show with what truth Galen may be termed a *localisateur*—a term to which his correspondent had objected—by quotations from his works on a variety of subjects. He first alludes to the opinions of his author on the phenomena of the nervous system health and in disease. . . . . .

'Examine the most recent treatises on physiology, and observe what is there ed as to the brain being the organ of the intellectual manifestations; then ult the works of Galen, and say, if on this point all succeeding physiologists not seem to have been eternally condemned to the labour of Penelope!

When you have perused the enormous volume which *Gall* devoted to this very subject, you will probably be tempted to ask, before proceeding further, if some new Archigenes has not appeared to call in question all the facts recorded by him. At the same time do not forget to observe that in a Dictionary, published only the other day, we are told that these facts have been demonstrated only within the last few years. . . . . .

Archigenes himself, although professing a contrary opinion, shewed by his practice that he had adopted Galen's view of the question. In the treatment of all mental diseases, he directed his remedies to relieve the brain—a contradiction which his opponent has tauntingly exposed in these words:—"But oh, most illustrious Archigenes! you are surely not right in addressing yourself to the head, if, in these cases, it is the heart that is affected.'"

M. *Dubois* shews that many other supposed discoveries of modern times were well known to the ancients. Praxagoras and Philotinus had suggested that the encephalon is only an expansion of the spinal-marrow, and that the cranium is only an immense unfolded vertebra; an idea which Galen exposed as an ignorant absurdity.

Erasistratus had maintained that the number and size of the cerebral convolution are *en rapport* with the perfection and extent of his intellectual powers: Galen objected, that if this idea were correct, the brain of the ass should certainly have no convolutions at all;—a poor objection indeed, says M. *Dubois;* for the ass is by no means so stupid an animal; and Homer has not hesitated to compare one of his heroes, Ajax, to it, in consequence of his invincible tenacity and independence of character!

Galen, however, has shewn much more discretion in discussing these subjects than many of the modern writers; for, on one occasion, he stops himself by saying that such discussions lead to questions too lofty and mysterious, but adds, with a natural grace, that it is difficult to avoid treating of the soul when engaged with the organ which is the seat of it. What a fine rebuke to the materialist of the present day is contained in the following passage:—

"If the principle of intelligence be a simple result of the structure of the brain, it would be essentially injured by any change in its texture; but if it be placed there, as we are in our dwellings, it does not necessarily follow that it should be injured by such physical changes. As, however, philosophers are not agreed on this question, and as they are unable to tell us whether the mind is an accident or result of matter, or whether it be merely associated with it, we should be satisfied with the simple announcement of the fact, that lesions of the encephalon generally induce disturbances of the mental powers."

. . . . But to return to the subject of localisation, we should remember that Hippocrates himself has distinctly stated that, when one lateral half of the brain is injured or diseased, the affection is manifested on the opposite side. Aretæus is more explicit in his description of this pathological fact, and gives an anatomical explication of it. Strange to say! this important truth became almost entirely forgotten: for we find that *Pinel* has not even alluded to it in his account of apoplexy, although in his report of *Daubenton's* last illness, he expressly mentions that the left side of his body was paralysed, and that nearly two ounces of blood were found on dissection in the right ventricle of the brain.

Now let us ask ourselves if modern discoveries have added anything of value to the proposition enounced by Hippocrates and Aretæus. Can we, with any degree of certainty predict the seat of the lesion, or say whether the brain itself or its meninges are affected in any particular case? All that we can do is to make some conjectures; and *Galen* had long ago shewed how unsatisfactory and futile these usually are. 'We need not,' says he, 'trouble ourselves about trying to discover whether it is the brain or its coverings that are most affected; since, in either case, we know to what side of the head we should apply our remedies.'

So much for the encephalon; let us now turn our attention to the spinal-marrow. It has been formally announced in our days, that the symptoms of a lesion of this organ are manifested on the affected side. What says *Galen* on this subject? "You have seen that when our incisions, made transversely on the spinal marrow, extend to only one-half of its thickness, the parts situated below the place of the incision were immediately paralysed, but only upon the side of the section; on the right, if the right half was cut, and *vice versâ*.

Galen was also well aware of the different effects of external violence or disease on the spinal-marrow in different parts of its extent, and that the fatal consequences of the cervical portion being injured are attributable to the interruption of the breathing thereby induced.

It is really astonishing to observe the singular accuracy of the old physician's knowledge as to the functions of the nervous system, and the effects of injury or disease upon them. He had even, in some measure, foreseen that beautiful discovery of modern times, the distinction between the nerves of sensation and those of motion. He confessed that he was unable to solve the question: "grand problem!" he exclaimed, "question full of difficulties and doubts! which Herophilus and Eudemas have left to posterity for solution!" And how many centuries passed before posterity ever applied themselves to solve the question, which had been *formulé* in so plain and distinct a manner by *Galen*.

If our space allowed, we might also allude to his clear-sighted views on the localisation of the intellectual powers in the anterior part of the cerebrum, while at the same time he avoided most of the errors into which the hasty curiosity of many modern physiologists has fallen, in their attempts to define the seat of each mental faculty. While he was aware that one faculty, as the memory for example, might be specially affected, he confessed his utter inability to arrive at any accuracy in his attempts to establish a local diagnosis of the seat of individual faculties. Whoever will carefully peruse the writings of *Galen* cannot fail to be struck with the singular sagacity of his views on the functions of the nervous system. Had they been better known by physiologists, and had the example of cautious deduction which he has set, been more generally followed, more progress might have been made in revealing some of its mysteries than has been by the mode adopted of late years.

M. *Dubois* closes his remarks with some allusions to that passage in *Galen's* life, which, if true, is but little creditable to his feelings of humanity and justice —his cowardly desertion of his post of duty when the plague broke out in Rome.

He has not, however, been without finding excusers of his alleged conduct on this occasion. M. *Double* benevolently doubted the truth of the charge; but M. *Dubois* seems satisfied that there are ample grounds for it, and attributes his unworthy behaviour to the general demoralisation then prevalent. "The true motive," says he, "is, that in Roman society at that period the *moral sense* was nearly quite lost, more especially among the learned and affluent; for the regeneration, which Christianity was preparing, shewed itself as yet only among the lowest classes of society."

Galen was about thirty-four years of age when he arrived at Rome, where he soon acquired so high a reputation that his practice increased even beyond his wishes, *cum ægrorum curatio felicius quam optassem succederet.* He was probably rather a boastful loquacious gentleman, for he tells us himself that his *confreres*, who were probably jealous of his rising success, called him a *logiatre! moxque latron exclamarent.* He therefore resolved that from this time he should put a rein upon his tongue, and never say more in consultation than what was absolutely necessary: *ut invidam istorum linguam declinarem, non, apud illos quos versabam, plus quam necesse erat profabor;* and he adds, *ne me plusphilosophi ac*

medici delusorem et vatem appellent. He tells a capital anecdote of his "savoir faire" in imposing on the credulity of some of his cotemporaries, who from his account seem to have rivalled in skill many of the *dispensing doctors* in the present day. We should suppose that he was a sly humorous rogue in his way, laughing in his sleeve at the ignorance of some of his confreres, and all the while keeping a sharp look-out at the main chance.

We extract the following report from his work De Locis Affect. libr. v. c. viii.; it is really very amusing.

GALEN'S REPORT OF A CASE OF HEPATITIS.

"Soon after my arrival in Rome, Glaucon, the philosopher, took a great fancy to me in consequence of my reputed skill in the diagnosis of diseases. Meeting me one day in his walk, he stopped to shake hands, and thus accosted me: You are the very person I want; I have this moment left one of my friends, a medical man himself whom you may have seen with me the other day, very ill; suppose we go and call upon him.—Where does he live, and what's the matter with him? I said.—Glaucon, who is of a most frank disposition, replied; I have heard from Gorgias and Appelles that you have on more occasions than one given such an accurate diagnosis, that it seemed more like the result of divine inspiration than of human knowledge; and I am glad of this opportunity of putting to the test this talent of yours, that I may satisfy myself whether you really have this marvellous faculty of presaging the most obscure questions.

By this time we had reached the door of his friend's house, so that I had not even a moment to tell him, as I have so often done to you, that, if in some cases we have one or more of those symptoms which leave no doubt as to the nature and issue of an existing disease, in other cases they are so far from being satisfactory or unequivocal that we require a second or even a third examination of the patient before we can with any confidence pronounce our opinion.

As we entered the house, I observed in the first vestibule that a servant was carrying from the invalid's room a vessel containing a serous fluid, which appeared to be slightly sanguinolent and not unlike the washings of fresh meat.

This at once satisfied me that there was some affection of the liver;* but I made no sign in any way of what I had observed, and we at once proceeded to the patient's room.

The first thing I did was to feel his pulse, in order to determine whether the affection was of an inflammatory nature or not. As the patient was a medical man himself, he remarked that his pulse might have increased in frequency by the fatigue and exertion of getting up to stool; but I had already assured myself that his complaint was strictly inflammatory.

I observed at the same time on the selle of his window a pot which contained what seemed to be hyssop mixed with honey and water; nothing more was required to shew me that our gentleman thought that he was labouring under a pleurisy.

This idea was probably suggested by the sharp pain which he felt under the false ribs—a symptom however which is very common in inflammation of the liver also—by the cough, and his short hurried breathing.

Having thus learned all that was necessary, and profiting of the opportunity

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* The ancients were in the habit of regarding the serous evacuations from the bowels at the commencement of dysentery and other intestinal affections as proceeding from the liver, and hence they gave the name of *hepatorrhea* to this symptom.

which luck put in my way of giving Glaucon a high idea of my skill, I placed my hand over the false ribs of the right side, and told the patient that *there* was the seat of the disease: he admitted that it was. Glaucon, who supposed that it was only from feeling the pulse that I had made the discovery, was at once delighted and surprised.

To increase his astonishment, I said to the patient: 'besides the pain in the right side, you are distressed every now and then with a troublesome dry cough, with little or no expectoration."

While I was yet talking, he was seized with just such a fit of coughing as I had described. Glaucon could no longer conceal his surprise, and forthwith began to praise me to the skies.

Wait a little, I said to him; do not suppose that this is all that my art enables me to do. Then addressing myself to the patient, I continued,—do you not find the pain to be increased, and feel a sense of weight in the right hypochondrium, whenever you take in a deep inspiration? he at once replied that it was so, and seemed to be almost as much astonished at my prediction as Glaucon himself.

Seeing that fortune continued to smile on every thing that was done, it occurred to me to say something about the shoulder; for I was well aware that in most diseases of the liver there is a feeling of dragging down of the right shoulder. I had no sooner made the allusion than the patient at once confessed that it was just as I had predicted.

I will add only one other word more, I said; I will tell you what you have supposed was your disease. Glaucon exclaimed that he should not now be surprised to hear me divine even that too. The patient, astonished at my confidence, looked at me most steadfastly, awaiting with anxiety what I was about to say.

I told him that he believed that he was labouring under a pleurisy; he immediately answered that it was really so, at the same time expressing his profound veneration for my skill. His medical attendant also had formed the same opinion; for he had just ordered an oily fomentation to the side, such as is commonly used in this disease.

From this period, Glaucon formed the very highest opinion of my professional abilities, although hitherto he had always spoken slightingly of medicine and of physicians; but it must be confessed that he had probably never come in contact with any one of consummate skill.

I have detailed these particulars, adds *Galen*, in order that, if fortune throws in your way a favourable opportunity, you may know how to turn it to the best account; for it not unfrequently happens that we are placed in situations by which with good tact we may reach celebrity, although the greater number of men from ignorance cannot avail themselves of the chance."

(A very good commentary on the well known lines—

There is a tide in the affairs of men,
Which, taken at the flood, leads on to fortune;
Omitted, all the voyage of their life
Is bound in shallows and in miseries.

Few men feel the truth of the maxim with greater force than many of our own profession.)

BIOGRAPHICAL NOTICE OF RICHERAND; HIS DISPUTES WITH DUPUYTREN, &c.

and was born in 1779, and, while yet a young man, went to Paris with the establishing himself there as a surgeon. Gifted by nature with quick talents, he early distinguished himself as a ready and graceful writer.

In the 22nd year of his age he published his well-known Elements of Physiology —a work which has passed through very numerous editions, and has been translated into almost every European language. It will long remain a favourite with the medical student, from the beauty of its style and the liveliness of its descriptions; indeed, there is perhaps no professional book which has been so extensively known to general readers as this model of elementary works.

Every celebrated man has, it is said, his peculiar fatality; that of *Richerand* was to find in his youth such a rival as *Bichat*, and in his manhood a competitor like *Dupuytren*. He was surpassed by both, but without being *effaced*. The sun of *Bichat*, which rose with such brilliancy of promise, soon set; and *Richerand* then reigned nearly alone in the path which he had opened up to himself. He had dedicated his work to *Fourcroy*, who at that time occupied a high post in public instruction, and he was not long in receiving the reward of his well-selected homage. He was appointed surgeon first to St. Louis Hospital, and afterwards to the Guard of Paris; and in 1807 he obtained the chair of surgical pathology in the Ecole de Paris.

He devoted himself with great energy to the labours of his profession, and at length acquired a high reputation as a bold operator. This was greatly increased after the occurrence of the memorable case of cancer of the breast, in the removal of which he cut away portions of several of the ribs. The case was altogether a very extraordinary one. The patient was a surgeon himself, and the disease had made so much progress that the subjacent ribs had become affected. Encouraged by the able counsels of his fellow-professor *Dupuytren*, M. *Richerand* undertook the formidable operation of excising the whole of the morbid mass. "By a quadrilateral opening which formed a sort of window in front of the heart," this organ was quite exposed, and was seen and touched by several persons. (Histoire d'une resection des Côtes et de la Pleure, lue à l'Academie Royale des Sciences, 27 Avril, 1818.) Although the patient died subsequently from the return of the disease, this "belle operation" was not the less creditable to the skill and daring of him who performed it; and his fame was widely diffused in consequence. But unfortunately for him, he was not able to maintain the high position to which he had now been raised in the eyes of the public. He did not combine the calm penetrating glance of the philosophical surgeon with the boldness and sang-froid of the skilful operator. "No one," said his lively compatriot *Brillat Savarin*, "could comfort better, or had a gentler hand or a more rapid use of the knife:"—true; but such qualities, although they indicate talent, can lay no claim to genius. Now, this was the case with *Richerand*. And then beside him, and almost always under his very eyes, there was rising up a rival who knew how to combine mental powers, that were unquestionably superior to those of *Richerand*, with an insatiable ambition, and with a daringness, a self-confidence, and at the same time a pliability of character that had rarely been equalled.

This man had moreover a great advantage over his rival,—a masterly talent of speech. *Richerand*, although a graceful and eloquent writer, could never express himself in public well. He seemed to be confused in his thoughts, and his language was abrupt and inelegant. He had none of that *flumen orationis*, that smooth strain of animated words which captivates an audience and gives confidence to the speaker. His accent and pronunciation were moreover bad, and his gestures utterly graceless.

All this was much against his success as a professor, and the very consciousness of his defects, which were rendered still more conspicuous by the foil of *Dupuytren's* admirable talents as a public speaker, seemed to annoy him exceedingly, and was probably the main reason of his deep-sown envy against his celebrated colleague.

The publication of the *Nosographie Chirurgicale* added greatly to his reputation, and deservedly so; but, like all his former writings, it was chiefly conspicu-

ous for the beauty of its style, and a certain felicitous explanation of whatever subject was treated of. In the course of a few years, however, its success began to wane before the increasing brilliancy of *Dupuytren's* lectures—lectures which, it is well-known, attracted students from every part, not only of France, but of Europe, to listen to the words of the Napoleon of surgery. *Richerand's* class-room on the other hand was never well attended. *Desgenettes*, ever ready to launch a biting jest when an occasion offered, replied to a gentleman—who asked, "what is *Richerand* doing? is he writing?"—No, our colleague "professe un cours public que le public evite."

When the Academy of Medicine was instituted, *Richerand*, whose elegance of style was well known, was appointed secretary of the surgical section. Impelled by the desire to rule, a feeling which almost always attends men of some talent, he wished to have an ascendancy in the meetings, and to imitate the example of *Louis*, the illustrious secretary of the old Academy of Surgery. But here again he failed in his object. The frequent opposition which he encountered, and the satirical allusions to the new *demi-Louis*, soon taught him that his pretensions could not be maintained; and accordingly he resigned his situation. The presence of his rival too was a source of continual vexation; feeling, as he must have done, how he was overshadowed by the superior talents of *Dupuytren*, whose disdainful hauteur, and cold contemptuous manner were always blended with an air of affected moderation. The virulent attacks and bitter personal recriminations, in which both too frequently indulged at the meetings of the Academy, are still remembered with regret. On one occasion, a member of the learned assembly exclaimed with most malicious point, "These gentlemen tell *such truths* of each other, that those who hear them take them for calumnies." The quarrel ceased, but not the mutual hatred which had given rise to it. *Richerand*, in a public report communicated to the Academy, and which he subsequently published in an extended form, under the title of the "Recent Progress of Surgery," attacked his enemy under the guise of *Simon Pimpernelle*, who is described in an old work as *Parisiensis, vir disertissimus, consultor famosus, societatis barbitonsorum chirurgorum quater præfectus;* and on a subsequent occasion he designated him as "a man with a heart of ice, and a brain circled with bronze, who lies as other people breathe."

It is a curious circumstance that *Richerand* was, after the death of his great rival, charged with the article *Dupuytren* for the Biographie Universelle. Although a reconciliation had taken place during the last illness of the latter, and though the writer seemed to have felt the justice of the saying, *nil nisi bonum de mortuis*, he was not able to conceal the old spirit of animosity which had so long existed between them: *manet ultá mente repostum.* After bestowing a few eulogies, as pale as insignificant, he sums up the character of *Dupuptren* by telling us that his genius "ne consista qu' *à faire autrement.*"

The article was ill-received by the public, and gave rise to the witty remark of Dr. L., "*Zoilus genuit Mœvium Mœvius autem genuit Richerandum.*"*

He afterwards, we are told, commenced a history of surgery; and it is to be regretted that he did not carry out his design to completion. Instead of this, he entered the arena of political partisanship, and published, in 1837, a work entitled, "Of Population; in its relations with the nature of Governments." It was

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* As a specimen of the article we may quote the following passage. "An eloquent, ready, and ingenious professor, gifted with an indefatigable activity. To have his name repeated with the epithets of the great, the eminent, the first surgeon of the Hôtel Dieu, seemed to be the main object, as it was the chief delight, of his life. It consoled him for his domestic misfortunes, the publicity of which was not without its charms to him." (*Dupuytren*, we believe, was unfortunate in his matrimonial alliance; his wife eloped with a foreigner.—*Rev.*)

a hasty production, and had but little success: in truth it was not much more than a vehement invective against the nineteenth century. His views seem to be those of ultra-toryism. He is friendly to an almost absolute despotism, and regards liberty and equality as sublime political *niaiseries*. *Montesquieu*, according to him, is only a cautious Gascon; and *O'Connell* is a revolutionary Thersites. In politics, as in surgery, he invokes the use of fire and steel for the cure of social as of corporeal disorders. A devoted admirer of the silence and order which prevailed under the rule of *Napoleon*, he seems to have entirely overlooked the disastrous close of the mighty emperor's life. He disliked every novelty, and the social movement that is going on in the present day, was viewed by him only as the baneful work of disorganisation. He was ever afraid, like the Abbé *Sieyes*, of seeing "l'enfer" of the republic reinstated in power.

Although of a strong and vigorous constitution, *Richerand* did not live to be an old man. The serene influence of easy circumstances, and of a life apparently calm and fortunate, did not contribute to lengthen his days. He died after a short illness in January, 1840. He had expressed his desire that no *eloge* should be pronounced over his tomb; well aware, no doubt, of what little value such posthumous glorifications are in the present age of scepticism and indifference.

It is useful to every one to muse occasionally on the characters of the leading men in our profession; especially after they have been withdrawn from our eyes, and when all partiality and prejudice have ceased to influence our judgments. The lives of such men as *Dupuytren* and *Richerand* may suggest many a useful hint to the medical practitioner. Both were gifted with great talents; but both, alas! were destitute of that well-adjusted poise of mind, and that guidance of the higher moral feelings, without which, although intellectual and professional eminence may be attained, the real prosperity of personal happiness and of cotemporary respect is not to be won.

Let it ever be borne in mind that no person can continue to give way to the impulse of any one extreme and energetic feeling, without compromising his own comfort and welfare. *Dupuytren* and *Richerand* suffered most bitterly from this fatal mistake. And what has been the result?—not only were they unhappy in themselves, but they also failed in doing for science what science had a right to expect from them. Both of them died in the strength of their age, worn out less by the decay of their bodily powers, than by the corrosion of mental anxiety and disappointment. In the latter years of *Dupuytren's* life, notwithstanding his ever-increasing celebrity and worldly success, the care-worn expression of his features, and the cold mechanical smile that often played upon his lips, indicated too clearly the inward distress and deep-rooted melancholy which was preying upon his soul. The germ of death was already sown. His reputation with posterity will not be at all commensurate with the great fame which he had in his day. *Richerand*, on the other hand, vexed at the acknowledged superiority of his rival, wasted his talents in angry contentions, and at length gradually retired from the field in which, had he been satisfied with the second command, he might have won most honourable laurels. The manhood of his professional career by no means fulfilled the bright promise of his early days; not that his capacities and attainments had at any time been over-estimated, but simply because they were not directed in a right course, nor matured under the fostering influence of a peaceful and contented spirit.—*Gazette Medicale.*

MEMORY OF M. SANSON.

We observe by a notice in the Gazette Médicale that this distinguished surgeon and truly honourable man recently died in Paris. Although much respected by

every one, his pecuniary affairs seem to have been almost always embarrassed; for we are told that, "after having constantly lived in the most respectable poverty, he left scarcely sufficient means to pay the expenses of his funeral." We are glad to observe that a committee of his professional brethren was immediately formed for the purpose of raising a subscription to erect a *modest* monument over his remains, in token of their admiration of his talents and respect for his moral character. The names of *Chomel*, *Royer-Collard*, *Rayer*, *Cruveilhier*, *Dubois*, &c. are put down for 100 francs each. M. *Sanson* had been long in the army, and for some years past was one of the surgeons of the Hôtel Dieu.

CIRCUMCISION AS PRACTISED AT CONSTANTINE.

Dr. *Bonnafont*, one of the physicians of the French army in Algeria, was on several occasions witness to this operation as performed by a native surgeon or *tebib*. The time at which it is usually practised is about seven or eight years of age. There is generally a festive meeting of the friends of the parents assembled on the occasion; but they all take their leave before the ceremonial rite is commenced. On one occasion, at which Dr. B. was present, upwards of thirty friends breakfasted; they then washed themselves and were sprinkled over with rose water, and after praying they all departed. Seven large candles, fixed in a rod of wood, and ornamented with ribbons or coloured paper in a fantastic manner, were then placed at the side of two cushions laid on a low seat; and at the other side there was a vessel holding wood-ashes, and another in which some paper was burning. The father sat down "a cheval" on the cushions, and held his son before him in nearly the same position as we employ in the operation of lithotomy. The *tebib* seated in front first forces back the prepuce so as to uncover the gland, which he dusts over with the ashes of the burnt paper. This forcible retraction of the prepuce sometimes gives much pain. The *tebib* then pulls it forward again, squeezing back the glands as far as possible, and working the prepuce freely between the fingers. Holding it firmly between the nail of his thumb and the forefinger of the left hand, he then snips it across with strong scissors. This is so quickly cut that the child has no time to cry out before it is all over. The wound and the whole of the penis is then dusted well over with the ashes of the burnt wood and paper; nothing else is applied. A fresh application of the ashes is made every morning. There is thus gradually formed an impermeable crust, which comes away like the finger of a glove, when the cicatrisation is complete—this being usually the case about the 25th or 30th day after the operation. During all this time the child is an object of especial regard to his family and his friends, who are every now and then visiting him, and shewing him all marks of kindness.—*Annales de la Chirurgie.*

TRANSMISSION OF GLANDERS FROM ONE HUMAN SUBJECT TO ANOTHER.

M. *Berard*, surgeon of the Necker Hospital in Paris, has communicated to the Royal Academy an interesting case which, in his opinion, clearly establishes this important but melancholy fact.

One of his pupils had the charge of dressing an ostler who was admitted with he symptoms of chronic farcy, and subsequently became affected with acute anders; he eventually died. The dissection was performed with great care by . *Rocher* (the pupil), who, while the sawing of the cranium was performed, ept his hands on the face, which had been affected with a gangrenous eruption. A short time before the death of the patient, he (M. *Rocher*) had been affected

with colicky pains and slight diarrhœa; but it was not till the night after the dissection that he became seriously ill. He awoke with a shivering fit, which was soon followed with the usual symptoms of fever. The pains in the limbs were severe, and on the third day fixed themselves in the left thigh, the right shoulder, and the right side of the chest. On the fifth day, M. *Berard* detected in these parts puffy swellings, which had many of the characters of farcy tumours; his prognosis was therefore very unfavourable. The swelling in the right shoulder disappeared; but that in the left thigh increased, and was laid open with the knife: a quantity of pus mixed with blood was discharged.* Another tumour, preceded by most severe pains, made its appearance over the right ankle, and proceeded on to suppuration. On the 14th day after the invasion of the disease, the skin of the nose became red and painful; on the following day, the redness had extended to the cheeks, eyelids, and part of the forehead, and here and there several gangrenous phlyctenæ were observed. Next day numerous pustules appeared on different parts of the body, and a copious discharge issued from the nostrils. The patient died in the course of the night, sixteen days from the commencement of his illness.

The horse that had been inoculated died upon the same day, after having exhibited the symptoms of acute glanders; the nasal fossæ presented the usual morbid appearances of the genuine disease.

M. *Berard* says that there had not been any wound or puncture of the integuments in the case of his regretted pupil, and that he had always taken the precaution of washing his hands after dressing his patient. He is therefore of opinion that the disease was communicated by miasmatic contagion in the same way as small-pox and other diseases are known to be propagated. The report of the case has been sent to the surgical committee to investigate its particulars with attention.

M. *Bouillaud* stated that he had recently at La Charité hospital a case, the nature of which he had not discovered till within a day or two of the patient's death. He was a youth who had been admitted into M. *Velpeau's* ward in consequence of a painful swelling over the sternum. There was slight œzena, and incipient erysipelas of the face; the breath was very fœtid, the lips dry, and the tongue was covered with dark spots. He was bled, and the blood was buffy. On the following day he became delirous, and numerous pustules had made their appearance on different parts of the body, but chiefly on the face. It was the occurrence of these pustules that first suggested to M. *Bouillaud* the idea of the glanderous nature of the disease. The patient died; and on dissection several purulent deposits were found in the muscular tissue; some of the pustules had proceeded on to ulceration. In the nasal fossæ there were several minute grey ulcers, varying in size and depth; one large one was situated at the top of the pharynx.

The case had been viewed from the first as one of bad typhus fever; but there can be no doubt now that it was really one of acute glanders. The youth, it was afterwards discovered, had been in the habit of dressing two omnibus horses which were labouring under the disease.

At the same meeting of the Academy a case was related by one of the pupils of M. *Rayer* at La Charité, in which one of the grooms of the great veterinary school at Alfert died of acute glanders supervening upon the chronic form, which had continued for a number of months, and had unfortunately been mistaken for syphilitic disease, in consequence of the palate and throat being chiefly affected. Besides the usual lesions in the nasal fossæ, &c., the palate bones were found eroded in several points, and the entire length of the trachea exhibited traces of

* A horse was inoculated with some of this matter by M. *Leblanc*, the well known veterinary surgeon of Paris.

previous mucous ulceration, which had cicatrized. Such an appearance is not uncommon in horses that have been affected with farcy or with chronic glanders; but it has not been observed in the human subject before the present case.

From the preceding statements it would seem either that glanderous disease in man is becoming of more frequent occurrence, or that many cases, which used to be regarded as instances of syphilitic or other morbid infection, are now found to be owing to the contamination of equine virus.

HINT FOR THE TREATMENT OF DIABETES MELLITUS.

M. *Bouchardat*, in a memoir recently communicated to the Academy, remarked that the matter of perspiration is usually found to have lost its normal acid properties, while on the other hand the secretion from the mucous membrane of the digestive canal, which is alkaline in health, becomes acid. He strongly recommends brisk friction of the surface, with the use of warm flannel clothing, and the internal administration of carbonate of ammonia, to restore the healthy state of the cutaneous and mucous secretions.

Remark.—That diabetes mellitus is essentially a humoral disease, or in other words dependent upon or connected with an altered state of the fluids of the body, there cannot be a doubt; and it is therefore highly probable that more light may be thrown on its real nature by the discoveries of organic chemistry than by any other mode of examination. Whether M. *Bouchardat* is correct in stating that the cutaneous secretion changes from acid to alkaline, and the mucous secretion from alkaline to acid, we are not prepared to say: we must await the results of future experiments.

Dr. *Willis*, in his recent work on Urinary Diseases, alludes particularly to the good effects of magnesia in the treatment of many cases of diabetes mellitus, and other practitioners have had occasion to make a similar remark.* Perhaps however this need not surprise us, considering that, whenever there is any disturbance of the digestive functions, there is always a greater or less tendency to acidity of the stomach. No doubt the use of an animal diet must powerfully contribute to obviate this tendency whenever it exists.—*Rev.*

FATAL CASE OF ACUTE PLEURISY AND EFFUSION; WITH PRACTICAL REMARKS ON THIS DISEASE.

A middle-aged man, soon after recovering from a protracted attack of dysentery, was suddenly seized with pain in the left side of the chest, which had been gradually increasing for eight or nine days before he applied for medical relief. The pain at this time was very severe at one point immediataly below the mamma; it was much increased by deep inspiration, and by the cough, which was dry and of a convulsive character, returning frequently in fits of five or six minutes duration. The patient could not lie upon his right side; the easiest position being on the back. Percussion elicited a clear sound from the right side of the chest; but there was a dull resonance over the lower half of the left one. The respiratory murmur however was, we are told, perceptible on both sides; but it is added afterwards, "we thought that we could hear an œgophonic sound over seat of the pain." (This remark seems to be the result of an *arrière-pensée*,

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* Vide the Medico-Chirurgical Review for July, 1839.

Rev.) The pulse was rapid and tolerably firm, and the breathing was much hurried.

On this day (7th of Nov.) he was bled to twelve ounces, and twenty leeches were applied over the seat of the pain. The bleeding was repeated in the course of the evening, in consequence of the severity of the cough: the blood on both occasions was covered with a dense buffy coat. On the following two days he was again bled, and on the latter, a blister was applied on the left side. A mixture with syrup of poppies and nitre was also ordered at the same time. The symptoms were somewhat relieved, but only for a short time; for on the 11th we find that the cough is reported as being as troublesome as ever, and the pain still severe: "persistence also of the dullness of the chest and of the absence of the respiration." (This is the first notice of any absence of the respiratory murmur.) The blister was ordered to be kept open; and the patient was advised to inhale the vapour of an infusion of belladonna flowers to relieve the cough, which was still most distressing. The expectoration had hitherto been very scanty, but about this time (14th) it began to be more abundant. The whole of the left side was now dull on percussion, and a bronchial respiratory sound was audible over its entire extent; the pulse and breathing were still very rapid, although the pain was considerably less, and the cough was a good deal abated. The doses of the nitre were considerably increased in the hope of stimulating the absorption of the effused fluid.

The dyspnœa, however, became more and more distressing, and the only position in which the patient could lie was on the left side: the number of the respirations was nearly sixty in the minute, and the pulse was rapid and feeble. The operation of paracentesis was therefore performed without further delay; about eight ounces of a transparent serosity flowed from the canula, and the discharge was then stopped. The patient experienced considerable relief for some hours afterwards; but, the dyspnœa again increasing towards evening, eight ounces more were withdrawn. A quiet night followed, and altogether the patient was easier next day.

On the following days (17th and 18th) eight ounces were again withdrawn each time by the canula, and nearly as much flowed out from the wound by the side of the instrument; a few bubbles of air escaped the last time. On the 19th, the resonance of the affected side on percussion was greater than in health; but no respiratory murmur could be heard on auscultation; bubbles of air continued to ooze from the wound. The canula was therefore taken out. For two or three days a considerable diarrhœa had been present, and tended to exhaust the patient's strength. On the 25th, a mucous rale was audible on the right side, and a slight gurgling and amphoric sound on the left; the air entered and escaped freely through the wound during the acts of coughing especially. On the 28th he died.

Dissection.—On making an opening into the left cavity of the chest, a quantity of fetid gas made its escape, and some purulent matter was found within. The pulmonary and costal pleuræ were invested in almost their entire extent with a false membrane. The lung on this side was rather denser than in health; but it readily crepitated on pressure. The right lung was nearly sound, and the heart was quite healthy. The viscera of the other cavities exhibited no unusual appearances.

(*Remarks.*—There are few diseases, the diagnosis and the successful treatment of which require more tact on the part of the physician than pleurisy accompanied with effusion into the cavity of the chest. As long as the symptoms are acute—the pain in the side being very severe and much aggravated by a deep inspiration or by coughing, and the symptoms of synocha being present—there can be no difficulty, as a matter of course, in determining the proper treatment to be adopted, whether we have reason or not to suspect the existence of fluid

in the pleuritic cavity. A vigorous antiphlogistic practice must be pursued until the inflammation is subdued. But in the majority of cases the symptoms are much more perplexing, when the effusion has once taken place. The pain has usually abated a great deal; but the breathing is more oppressed, and the general anxiety of the patient is much greater. He cannot lie upon the healthy side; and sometimes the only position in which he can find ease is on his back. In certain cases, even when the effusion may not be very great, the dyspnœa amounts to more or less complete orthopnœa. The cough is usually distressing, recurring at short intervals in fits of great severity, and it generally resists every form of opiate or other narcotic medicines. No sooner has the patient fallen asleep than he is probably awakened with a paroxysm which quite tears him to pieces, and the severity of which leaves him much exhausted for the time. The cough is generally dry, hard and shrill—it is always worse when the head is laid low. There is usually little or no expectoration. This peculiar convulsive sort of cough, the distress in the breathing in the reclining position, the inability to lie on one or on both sides, taken in conjunction with the auscultatory signs—the dullness on percussion of the affected side over a greater or less extent, and either the absence of all respiratory murmur or the substitution for it of a bronchial sound—are the characteristic indications of pleuritic effusion. An unpleasant symptom, and one too very generally present, is an extreme rapidity of the pulse, which is almost always weak and compressible at the same time.

Not a few cases of this dangerous malady are mistaken by medical men for bronchitis, or for phthisical disease of the lungs, and they often go on prescribing for the symptoms for days and weeks, without even suspecting the existence of effusion into the chest. We have the authority of the late Dr. *Hope** that more than one eminent physician of this metropolis has, to his knowledge, mistaken the nature of such cases, so far as even to recommend their patients to try the effect of a residence in a warm climate, erroneously supposing that they were labouring under tuberculous consumption. It is unnecessary to dwell on the treatment of pleuritic effusion, as we fully concur in all respects in the judicious advice given by this lamented physician. The course pursued by Dr. *Lequine* (the narrator of the preceding case) was feeble and most unsatisfactory. He seems not to be aware of the powerful effects of mercury, especially when combined with squills and digitalis, in promoting the absorption of the effused fluid; neither does he appreciate the great value of repeated large blisters to the affected side—and yet these are the most efficient of all remedies.—Then again the practice of leaving the canula in the wound made by puncturing the chest, so that the air readily passed in and out of the chest, cannot be too severely reprobated. There may be a few cases, when the disease has been of old standing and the constitutional symptoms are not severe, where this may be hazarded; but, as a general rule, the wound in the chest cannot be too quickly healed. Fortunately however the extensive experience of Dr. *Hope*, and also of Dr. *Stokes* of Dublin, has fully proved that the operation of paracentesis thoracis is very seldom necessary, as the effused fluid may generally be caused to be absorbed by the use of judicious internal remedies.—(*Rev.*)

CASES OF MILKY URINE.

In our review of M. *Rayer's* elaborate work on the diseases of the kidneys in our last number, we directed the reader's attention to this singular malady. We

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* See his admirable unfinished Paper on this subject in the Medico-Chirurgical Review for last July.

mentioned that it has been observed in several cases to occur in patients, who had laboured under hæmaturia, more especially that form of it which seems to be endemic in the Mauritius, and in some other tropical countries. The following cases, from the work of M. *Chapotin* to which we then alluded, are illustrative of our remarks.

Case 1.—A young creole of the Isle of France had been subject in his youth to hæmaturia, which had continued till he was 14 years of age. His health, however, remained good, and did not seem to be affected until his seventeenth year, when he was attacked with sharp pains in the loins, which, after lasting for a few days, were followed by a discharge of urine of a milky appearance. This state of the secretion had continued for about two months, when the patient first consulted me. He was thin and weak, but did not complain of pain anywhere. His appetite was tolerably good; but his digestion seemed to be feeble; and he had always more or less thirst upon him. The bowels were relaxed several times in the course of the day, and after the least exercise the skin perspired copiously.

The urine, which was less in quantity than the drink taken, exhibited on cooling a whitish coagulated mass like the curd of milk, and gave out a peculiar faint smell. From this clot, when squeezed, there flowed out a whitish serosity which upon analysis afforded a considerable quantity of fibrine. The action of boiling water and of sulphuric acid showed the predominance of albumen; the quantity of gelatine was much less. The urine contained scarcely any acid, and only a very small proportion of its ordinary salts.

M. *Chapotin* recommended a nutritious animal diet and the internal use of steel and bitters, with the application of stimulant liniments to the loins and abdomen. Under this treatment, the patient's general health improved very sensibly; but the state of the urine remained as before. The tincture of cantharides was then given internally: in the course of ten days the dose was increased from six to twenty drops. The beneficial effect of the remedy was soon apparent: first the fibrine, and then the albumen and gelatine disappeared, and the urine gradually acquired a yellowish hue in proportion as these elements diminished and that of the urea increased: its odour, however, remained still faint and unpleasant. In the course of another week or two the secretion appeared to be perfectly normal, and continued so for nearly two years under the use of a tonic diet, the use of cold bathing, and residence in the country. He had then an attack of nephritic colic, in consequence of some imprudencies, and again the urine became of a whitish hue; but this appearance quickly vanished under the use of very simple means.

Dr. C. mentions that he has cured three other cases with the same remedies which he employed in the preceding one.

Case 2.—A gentleman, native of the Isle of France, 21 years of age, had been affected with hæmaturia in his childhood; in his 14th year he suffered from occasional nephritic pains, but did not void any gravelly matter at the time. In 1833, after lifting a heavy weight, he passed a great quantity of blood by the urethra. In 1835 he left the Isle of France for Paris. While there, the urine was occasionally thick and sanguineous, with a whitish colour on the surface: these symptoms were always increased by any bodily fatigue, and were usually accompanied with pain in the loins. In 1836 he consulted M. *Rayer*. His urine, when allowed to rest in a closed phial for some hours, was found to exhibit a white layer on the surface. On the following day, the same specimen had separated itself into two distinct nearly equal portions, of which the upper was opaque, of a yellowish-white hue, and without any sensible odour, and the lower was red and opaque, and had deposited two coagula—one of which was reddish-brown, like a clot of blood, and the other was white. The upper portion

was found by chemical tests to contain a fatty matter of a beautiful yellow colour, and which left a strong oily mark on paper. (The details of the analytic examination are given at considerable length by our author, to whose work we must refer those who wish to know all the particulars.)

The patient was ordered to be bled, and keep himself very quiet. The effect of the bleeding, we are told, was very decided; for the urine was found on the following day to be transparent and yellow as in health, with acid properties and of a urinous odour: its specific gravity, however, was very low, being only 1,0121. The report of the case closes thus: "complete disappearance of the symptoms. A few weeks afterwads, the urine became again sanguinolent and albumino-fatty, in consequence of fatigue; but two or three days' rest served to restore it to a healthy condition."

RECENT WORKS ON THE PLAGUE.

During the last two or three years there have been published in Paris several works on this frightful pestilence, as it has been observed at different times in Egypt, Syria, Constantinople, and Greece. The names of the chief authors are *Bulard Clot-Bey*, *Aubert* and *Gosse*.

There is considerable discrepancy of opinion among these gentlemen on the question how far the prevalence of the disease is, or is not attributable to the influence of contagion. M. *Aubert* goes so far as to deny the contagiousness of the disease altogether, and endeavours to trace the outbreak and diffusion of it to local causes—the most prominent of which, he says, are the poverty, destitution and filth of the inhabitants. He thinks that the circumstance—the truth of which we believe is admitted by all observers—of the plague being never entirely extinct during any season in those places where every now and then it rages with pestilential severity, affords a strong argument in favour of his view of the case. But does not the same thing hold true of small-pox? and yet no one denies that *it* is propagated by contagion. We are however, quite willing to admit that in the case of both these fevers, as well as of other wide-spreading diseases, their diffusion is attributable less to actual propagation from one person to another than to certain atmospheric conditions, the nature of which, however, we are utterly unacquainted with. Nevertheless it seems not improbable that the morbific element, generated in and proceeding from the human body, may act as "the leaven that leaveneth the whole lump," or as the one drop of variolous matter inserted in the arm causes the fermentation, so to speak, of all the fluids of the body, and the consequent production of innumerable pustules on the surface, containing a fluid altogether similar to that used in the primary inoculation.

The truth, therefore, as to the question of the contagiousness or not of the plague seems to lie in the middle between the two extreme opinions. That there is a certain *something* exhaled from the body of a plague, as of a small-pox patient, and that this exhalation, is capable, under favourable circumstances, of producing similar effects in the bodies of other persons exposed to its influence, appears to us to be indisputable; but then it seems equally true that this serial poison may be widely and generally diffused in locality at certain times, and may act contemporaneously on all the inhabitants of that locality, only with varying degrees of severity according to the predisposition of different individuals to be affected by it.

The practical deduction to be drawn from this view of the question is this important one—that, while precautionary measures ought certainly to be adopted to prevent the intercourse of the sound with infected persons, there is much in the existing quarantine regulations of most countries that is quite unnecessary,

or even positively injurious. If legislators, as well as medical men, were to bear in mind that the laws, which regulate the diffusion of the plague, are essentially the same in nature as those which influence the spreading of small-pox—a pestilence, by the by, quite as frightful as the plague, even in the worst seasons—fewer errors would have been committed in practice as well as in theory.

Both diseases are communicable from one person to another by direct contact as well as by aerial infection; both are attended with the eruption of cutaneous abscesses, the contents of which are virulently poisonous; both exist in sporadic cases at all times, but are subject to occasional outbreaks of unusual malignancy; and in both, second attacks are of only exceptional occurrence. Would that we might add that the plague, like the small-pox, was capable of being controlled and mitigated by the substitution of another disease! We are not sufficiently acquainted with a complete history of the Oriental pestilence to permit us even to entertain a grounded hope that Providence may raise up a second *Jenner* to arrest its frightful ravages. We do not remember at the present moment if any author has ever ascertained whether the lower animals are affected with an epizotic disease during the prevalence of the plague. It is more than probable that such is the case; but for want of accurate information we cannot say more. It certainly seems to us not at all more unlikely that an antidote may yet be discovered against the plague, than that vaccination has been found to exert such extraordinary preservative and counteracting powers against the spread of small-pox. This hint may not be deemed unworthy of notice, and if it leads to no other result than merely to that of inducing some physician resident in Turkey or Egypt to ascertain whether the brute animals are in any way affected during the prevalence of the plague, the information is not to be despised.

M. *Clot-Bey*, in his description of the disease as he has observed it for several years in Egypt, mentions a fact which very satisfactorily proves that there must be a vitiated state of the atmosphere, acting hurtfully upon all persons; for he says, that even those, who escape seizure, experience more or less decidedly the precursory symptoms of the disease. "In this condition they complain of glandular pains in the groins and arm-pits, increased by pressure or by muscular exertion, and these are accompanied with the loss of appetite, nausea, and feeling of great debility. The expression of the physiognomy is always changed. Those who were thus affected, but still went about their affairs, were in a sort of incessant struggle against the disease, so that it often seemed doubtful whether it or the powers of the system should have the mastery."

Every medical man must have noticed a similar condition during some of the late epidemics of the influenza: the disease may not have developed itself fairly in certain persons, but their systems were decidedly suffering from the baneful influence of the atmospheric condition.

The peculiarly characteristic symptom of the plague is the affection of the external glandular system in the groins and arm-pits, occasionally also in the neck and hams, and the formation of carbuncles and petechial spots on the limbs and trunk.

In the mild form of the disease, it usually experiences a favourable crisis by profuse perspiration, accompanied with the resolution or suppuration of the affected glands, within a few days after the attack. On the other hand, in the worst form of the disease, the vital powers seem prostrated from the very first, and death supervenes in a day or two, before any local symptoms are manifested.

But should this not be the case, the primary stage of debility is succeeded by one of re-action, attended with the usual symptoms of typhus fever: the pulse is full, vibratory, and frequent, the face is flushed, the pupils are dilated, the tongue is dry and often horny—in the early stage of the disease it is always white, moist, and of a mother-of-pearl hue—the teeth and lips become black, and the nostrils are

full of a pulverulent dark-coloured matter. Jerking of the tendons, hiccup, and coma usually precede death.

In some cases, while the symptoms now described are present, large gangrenous carbuncles make their appearance usually in the neighbourhood of the affected glands, the buboes advance very rapidly to suppuration, the pulse loses its frequency, and a profuse perspiration, and an eruption of erysipelatous patches or of circumscribed abscesses, or hæmorrhage from some passage, form a sort of critical phenomena in the disease.

Dr. *Gosse* describes two forms of plague as he observed it in different parts of Greece. In the *first* the disease seemed to be produced by direct contact, either with the bodies of infected persons or with articles of clothing or bedding which they had used, and then the primary symptoms were local: being not unlike to those of malignant pustule. A carbuncle was gradually developed, and about the second or fourth day a re-action was established around the gangrenous spot: this by degrees became detached without further trouble, save the local symptoms and perhaps also a certain degree of symptomatic fever. When the local re-action did not take place, several buboes appeared in the direction of the lymphatic vessels, all the symptoms became more threatening, and did not abate until the buboes began to suppurate. In the *second* form, the morbific principle, being in a state of greater virulence, had infected the atmosphere to a greater or less extent, and the earliest symptoms were those of constitutional disturbance, indicated by shiverings, vertigo, headache; the development of buboes was a secondary phenomenon, and when glandular swellings advanced to suppuration, the occurrence was observed to be generally of a favourable augury.

The duration of plague varies exceedingly in different cases: it has been known to prove fatal within twelve hours after its invasion, and in some cases it has lasted for twenty or thirty days. Like other pestilential epidemic diseases, the plague seldom exhibits the same features in different seasons. It is usually more malignant in the beginning of an epidemic, becoming less and less severe after it has continued for some time.

The generally-received opinion that those, who once have passed through the plague, are not subject to a second attack seems to be nearly correct; at least as much so in reference to this disease as it is to the small-pox. M. *Clot*, however, assures us that he has seen several well-marked cases of second attacks of plague; and Dr. *Gosse* tell us that of forty persons, who had had the disease and were subsequently employed in the lazarettoes, ten suffered from second attacks, of which however only one proved fatal. Does not this circumstance alone argue strongly in favour of the contagiousness of the plague, while at the same time it affords another point of resemblance between it and small-pox?

The pathological anatomy of the plague, if we may use such an expression, is, as might indeed be expected, far from satisfactory. The appearances found after death do not at all explain the formidable symptoms of the disease. It deserves however to be noticed that the examinations made by MM. *Clot* and *Bulard* clearly shew that the whole of the lymphatic system is deeply implicated, and that the internal glands, those for example situated in the mediastina and along the vertebræ and in the pelvis, are all more or less affected, as well as the external glands in the groins and arm-pits. The former of these gentlemen, although a zealous admirer of the Broussaian doctrines, admits that they are certainly not applicable to the explanation of the phenomena of the plague. It is surely too obvious, to require any comments, that the pathology of such a disease as the plague must be sought for after death in the altered state rather of the fluids than of the solids: we should remember that it is the blood that is "touched corruptibly" from the very commencement; and all hopes of attempting a cure

he in enabling the system to eliminate the poison. The channel, in which
st likely to be effected, appears to be the surface of the body, although
xcretory organs may be acted upon at the same time. It is lamentable

to find the very latest writers acknowledging that not the slightest progress has been made in the discovery of any curative plan to control, or even to mitigate, the frightful fatality of the disease. Certainly the most rational method seems to be that of inducing vomiting in the first instance, and then keeping up active determination to the skin by warm saline diaphoretics. The treatment of such diseases as plague, pestilential cholera, and malignant typhus, is to be conducted on nearly the same principles—they are all the product of active poisons introduced into the system, and one of their most prominent symptoms is a vitiated state of the blood. The exhibition of a strong emetic of salt and water, followed by copious draughts of warm water, has often a very marked influence on the future development of such diseases; the circulation, which had been previously weak and oppressed, becomes in consequence fuller and more regular; the skin is brought into a perspiring state; the offending contents of the stomach and duodenum are dislodged and prevented from passing along the intestinal canal, and a downward action of the bowels is frequently induced. The kidneys too are generally stimulated at the same time; we need scarcely add that all the respiratory passages get rid of the mucus that may be obstructing their canals. For these reasons we most strongly recommend that vomiting should be induced in almost every case without exception at the commencement of the attack, and that, if it has come on spontaneously, it should be promoted for some time by the use of copious draughts of tepid salt and water. The attendant will rarely fulfil the full intentions of the physician in this respect; he supposes that if the patient vomits, it is all that is required; far from it; the powerfully-straining efforts, which accompany this act, should be kept up for some time, otherwise their most salutary effects will not be obtained. Every one, who has watched much at the bed-side of patients, knows that in certain cases the matters that are rejected by the first or second acts of vomiting are merely the contents of the stomach, and that no appearance of biliary matter is observed until the straining has been continued for some time. Now in diseases, such as those to which we are alluding, it is most important that, if possible, the gall-bladder and the hepatic and cystic ducts should be well emulged, to use an old and expressive phrase; and of this the only proof is the rejection of their contents upwards. One of the earliest effects of pestilential diseases is unquestionably a vitiated state of the bile—does this arise or not from the greater disturbance of the circulation through the liver in consequence of the immediate proximity of the hepatic veins to the heart? However this may be, it has been remarked by all observers that a copious rejection of bile in the early stages of malignant fever may generally be regarded as a favourable symptom. It will be found too that the action of medicines, and more especially of mercurial preparations, can always be more depended upon in such cases after the free action of vomiting.

Let us suppose now that this has been fully obtained; what is the next thing to be done in such a disease as the plague? We should say, administer effervescing draughts containing the muriate of soda or the chlorate of potash, with or without ammonia according to circumstances, every half hour or hour, until the circulation is equalized and free perspiration is induced. In such a formula we combine the effects of an antiseptic, an aperient, a diuretic, a diaphoretic, and a stimulant; and we need not say how easy it is to vary the proportions of the ingredients so as to make one action predominate over the others, according as the circumstances of the case may require. Between each effervescing draught from five to ten or even twenty grains of calomel with or without camphor should be given, until a drachm or upwards has been administered.

Such is the treatment which, in our opinion, promises the most advantage in pestilential diseases like the plague. As a matter of course, other remedies may be required; such as moderate blood-letting, if the feverish re-action is strong; purgatives, if the bowels are torpid; blisters or sinapisms, when any local distress is severe; stimulants, such as wine and brandy, if the debility is extreme, &c. &c.

As might be expected, the patient is always left exceedingly weak, and his system does not recover its tone of health for several months after a recovery; the use of bark and other tonics, and a change of climate, are generally necessary for the restoration of the strength.—*Rev.*

PREDISPOSING CAUSES OF PULMONARY CONSUMPTION.

Common opinion attributes to the comparative activity of the organs of the body, at different periods of life, their greater or less tendency to become the seat of tuberculous deposition. Thus, in infancy and early youth, when the activity of the encephalon is certainly greater than at any other age, tubercles in the brain or its membranes are not of unfrequent occurrence. Then comes the turn of the abdominal organs, which in youth are endowed with great activity; and every one knows how frequent is disease of the mesenteric glands at this epoch. After puberty, the respiratory organs become more and more developed; and they are certainly by far the most frequent seat of tubercles. This tendency to pulmonary disease continues until middle or advanced life, when "the tuberculous secretion" is usually directed upon the uterus, the mammæ the prostate, the stomach, &c.

Dr. *Cheneau* has recently published in Paris, a work entitled—*A few words upon this question: can we determine the cause of the predilection of the tuberculous affection for the lungs from the period of puberty to about forty years of age? and can we account for the progressive frequency of phthisis in the present century?*

The following extract from this work, will shew in what manner he endeavours to solve the first of these questions.

"In the early years of life, and up to the age of puberty, Nature seeks only the preservation and the increase of the being. The physical life is concentrated in the organs of reparation, and is altogether assimilatory; and the functional derangements of these organs must therefore favour the circumstances which influence the tuberculous development. Hence the frequency of tubercles in the mesenteric glands and in the bowels during this period of life. A new state of things is observed after puberty. Life, hitherto chiefly physical, becomes then more and more intellectual: sensations, hitherto not felt, influence the whole system; the brain manifests all its powers and tendencies, and in its turn begins to exert a despotic sway over the organs, on which it previously seemed to depend. Besides the direct re-action which the organs of generation exercise on the encephalon, love, with all 'its passions, thoughts, desires,'—not forgetting the too frequent abuse of its delights—fails not to act most deeply on the mind. Then ambition, alas! too frequently disappointed, with hatred, and a host of other racking emotions, add fresh troubles to the troubles of the brain."

This excitement of the brain re-acts, in the opinion of our author, on the lungs through the medium of the eighth pair of nerves, giving rise to the tendency to tuberculous deposition in their structure.—*Gazette Medicale.*

Remark.—The very circumstance of genuine phthisis being infinitely more frequent from the 15th to the 40th or 45th year of age than at any other period of life, very naturally suggests the idea that the development and action of the generative organs have something to do with the production of the disease. The manner, in which Dr. *Cheneau* endeavours to explain the connexion, seems to us to be rather circuitous—the re-action of the excited brain through the medium of the eighth pair of nerves inducing an over active state of the organs of respiration. And yet there is the element of truth in this view of the question. For it should be ever kept in mind that not a single strong emotion can be

experienced for even a moment, but it is inevitably accompanied with a disturbance more or less considerable, of the breathing at the time. Witness the laughter of joy, the sobbing of grief, the sighing of chagrin, the panting of hope—what are these phenomena, but so many results of irregular inspiration and expiration? Physiologists have certainly not attended sufficiently to the intimate connexion that exists between mental emotions and their physical effects on the breathing and on the circulation, and thence on every part of the body: the only writer that we remember to have dwelt upon this subject is Mr. *Wardrop*, in his ingenious work on the Heart. He has not applied the reasoning, it is true, to explain the great tendency to pulmonary disease for several years after puberty; but he has pointed out in a very beautiful manner how intense, or long protracted, or frequently recurring, mental emotions must tend to induce cardiac disorders.

When we think of the almost unceasing play of a multitude of feelings and passions that agitate the mind of both sexes between the 16th and the 26th years of age, we may cease to wonder at the frequency of pulmonic derangements—seeing, as we have already said, that every act of mental emotion is almost necessarily accompanied with more or less disturbance in the regularity of the breathing.

There are, no doubt, other agencies to be taken into account, in attempting to explain the marked tendency to tubercular disease fixing itself in the lungs for ten or fifteen years after puberty. The irregular licentious life, too often, of the one sex, and the absurd mismanagement of the other, in reference to their food, clothing, exercise, &c. will not be overlooked by the attentive observer. Of this one thing we may be quite assured, that just in proportion as the artificial mode of existence is pursued, and the further the obvious suggestions of Nature and common sense in the physical education of girls are departed from, so will the tendency to pulmonary consumption be increased. Flannel clothing, high dresses, warm stockings, nourishing diet, taken at proper times of the day and at moderate intervals, early rising, regular exercise in the open air, bathing or sponging the body and brisk friction afterwards, avoiding the heated ball-room, the late hours, and the sentimental excitements of fashionable life—these, simple measures, coupled with a few other precepts which will readily suggest themselves, if more generally adopted, might save the lives of many a tender creature who is annually sacrificed at the shrine of foolish fashion.—(*Rev.*)

NEW THEORY OF TINEA; ITS SUPPOSED VEGETABLE ORIGIN.

A few years ago a young Hungarian physician, M. *Gruby*, announced, as the result of an extensive series of microscopical observations, that the cutaneous disease, known by the name of tinea or favus, is owing to the development and growth in the skin of cryptogamous plants of the genus fungus, which he has called *micoderme*. He tells us that they exhibit the aspect and form of such vegetable productions from their earliest appearance to their complete maturity, at which stage, if divided and examined with a magnifying-glass of two or three hundred powers, he has distinctly recognized the fruits or sporules in the interior of their cavities, as we observe to be the case in other fungi. He is of opinion that the disease is propagated by these seeds. This novel idea of the etiology of the disease has excited much attention among the French dermatologists; and it is but just to M. *Gruby* to acknowledge that the researches, which have hitherto been made on the subject at the St. Louis Hospital in Paris, have tended to confirm the accuracy of his statements.

The treatment, naturally suggested by this theory of the disease, is that of applying caustics or whatever is calculated to destroy the vegetable substance.

M. *Devergie* has, during the last year, been giving an extensive trial to a solution of the acid nitrate of mercury (of the French codex): the spots become at first of a reddish yellow colour, and subsequently black after the application.

M. *Emery*, of the same hospital, is in the habit of employing a strong solution of iodine for the same purpose, and it has appeared to answer extremely well.

In another article in the same journal, Dr. *Pelet* recommends an epilatory ointment; as, in his own opinion, the only prospect of effecting a rapid cure depends upon extracting the hairs from the diseased spots. This gentleman's experience, however, cannot well be trusted to; as he tells us that tinea is never present where the hairs have fallen out, and that the method which nature follows is always by the removal of the hair. He tells us, too, that all internal and external remedies are of little or no use until the hairs are extracted, or fall out spontaneously. It would seem, from what he says, that the empirics, MM. *Mahon*, have more success in the cure of the disease than any of the regular practitioners in Paris: their plan consists in applying, first, a strong lixirial soap to the head, and then an epilatory plaster, which, when removed, draws the hairs off with it.

Dr. *Pelet* recommends the following formula for an epilatory ointment and powder:—

Take of Soda (of commerce) . . . 60 parts.
Slaked lime . . . . . 4 -
Lard . . . . . 120 -
Mix together.

Take of Quicklime . . . . . 120 parts
Powdered charcoal . . . . 8 -
Mix together.

After cutting the hair very short, the crusts are to be detached by applying linseed poultices to the scalp, and washing it repeatedly with soap and water. After several days' use of these means, all the affected parts are then to be rubbed with the ointment: this is to be repeated daily. The swelling and redness of the scalp gradually subside, but without ever ceasing entirely. The pustules, the successive reproduction of which keeps up the disease, become more rare and appear only at long intervals. To effect this change, from two to three or four months are often required. When this is the case, a pinch of the powder is to be sprinkled among the hair every second day or so. The hair becomes gradually loosened, so that it can be easily detached with the fingers or with a forceps, without causing pain. When the affected parts are rendered quite bald, the treatment is nearly at an end; all that is necessary is to anoint the head with a small portion of the ointment every two or three days, and to keep it exceedingly clean.—*Bulletin de Therapeutique.*

Remarks.—It has often occurred to us that tinea, at least some forms of it, might be dependent upon the presence of some animalculæ in the affected parts: the local nature of the eruption, and its entire independence of constitutional derangement, coupled with the inveterate obstinacy of the disease, have probably suggested this idea to our mind.

Whether M. *Grube's* announcement of its vegetable origin be correct, remains to be proved; the question, we hope, will be attentively examined by some good microscopic observer. The notion, that not a few diseases may be owing to the development of animal or vegetable germs in the body, appears to us to be not at all improbable. The subject of the generation of entozoa is certainly a very curious one; but as yet we are at the very threshold of the inquiry.

Clinical Review.

DUNDEE ROYAL ASYLUM FOR LUNATICS.

TWENTIETH AND TWENTY-FIRST ANNUAL REPORT.

WE shall notice one or two particulars in these Reports.

Causes of Insanity.—Hereditary predisposition is found to be the most prominent. There are at present in the house a mother and her daughter, both admitted since last report. In families in which there is an hereditary tendency, though the disease may be latent in all the members, yet in many of them may be observed oddities of manner, and eccentricities, which a very slight cause is often sufficient to develop into insanity. Drunkenness continues, in many instances, to be an exciting cause, though probably not to the extent which many ascribe to it. The reporters have been inclined, in several cases, to think that, instead of being the cause of the disease, it was the consequence of its gradual approach; that the patient might have had recourse to intoxicating liquors to drown the uneasy sensations and troubled thoughts arising from approaching insanity. In other cases, the malady has evidently been kept up, and fits of excitement produced, by a disordered state of the alimentary canal. In such cases, till the bowels are brought into a healthy condition, which it often is very difficult to do, there is little chance of cure; but when once they have been got to act in a healthy manner, the disease often disappears very quickly.

Consulting Patients' Tastes and Habits.—If a patient has been accustomed to a suite of apartments, by placing him on a rate of board sufficiently high to provide him with this accommodation, an obstacle to his cure is at once removed, and he feels no degradation from his change of abode; but if he is treated differently, his irritation will be great, and his cure more protracted. One grand object is, to make the lunatic feel little or no difference by the change in regard to the comforts of life.

The reporters always endeavour to humour the whims of the old cases as much as possible. One gentleman, after tearing his linen to pieces, demanded, in a loud tone of voice, muslin shirts. A common cotton shirt was sent to him, and having been requested to say whether that was the kind wanted, he answered in the affirmative. He has worn these shirts for some time in the most satisfactory manner, and taken the greatest care of them.

Non-Restraint System.—Our readers are aware that we have all along opposed what we consider as great a piece of insanity as any to be found in the patients themselves—we mean the total abolition of restraint. We believe that this is, after all, impossible, one species of restraint, the manual, being only substituted for another. And at what a cost! In short this is one of the "humbugs" of the day. Let us hear what the reporters say to it.

"The abuses which were prevalent in mad-houses in this country many years ago, and which were so fully exposed in several publications, were, when generally known, calculated to arouse the minds of all to the inquiry how far restraint of every kind might be done away with. There are probably some places in England where great improvements in the matter of restraint might still be made; but in the most of those which are well regulated the restraint used is reduced to a mere trifle. Some, we hear, have gone the length of laying it aside in all

cases; but a regard to humanity imposes upon us the indispensable necessity of using some means of restraint to prevent the violence of a patient from being fatal either to himself or attendants; and in others to use it as a method of cure to prevent the patient from exhausting his strength by violent muscular exertion during a paroxysm, which, unless restrained, might end in fatal depression.

There are paroxysms at times so violent that no moral influence can have any effect in alleviating them; on the contrary, they are heightened by the mere presence of an attendant. Besides these reasons, there are others which at times render restraint imperative; but as this report is for general, and not professional perusal exclusively, we are obliged to withhold them from the public at large. Restraint may be either active or passive: in the former we have the patients and attendants perpetually struggling; in the latter we have the means of prevention and comparative tranquillity without loss of strength. We admit that an increase in the number of attendants must diminish the number under confinement by mechanical apparatus: but what we contend for is, that if the English lunatics, who are said to be 'non-restrained,' are like the Scotch, when in certain states of excitement, restraint cannot be dispensed with, in all cases, without positive injury. No matter how many attendants could be got, by night as well as by day, to hold with their hands, strive, and attempt to overawe lunatics labouring under furious, or any other kind of mania requiring restraint—from our experience we consider such a system to be neither safe nor proper, and not to be compared to one of a mild and passive nature. It is worthy of remark that there is at least one patient in this asylum who has frequently felt and acknowledged the good effects of temporary restraint, and who, on the approach of the paroxysm cries out lustily for the straps to be applied, to prevent mischief from being committed. Occasionally, all our patients are to be found perfectly free; and the very small number that we have at any time under mechanical confinement, is a proof that we are not advocates for restraint wherever it can be safely dispensed with. Seclusion, regulated according to circumstances, and attended with sufficient restraint to prevent mischief, we hold, in common with almost all who have had much experience in the management of the insane, to be the most effectual and the most humane means of allaying violent paroxysms. It is absolutely necessary also for the sake of the other patients. A lunatic breaking out into a paroxysm among a number of other patients—not to mention the danger to which his violence may expose them—would, unless speedily removed, be the cause of others falling into the same state. From almost all the Reports of other Institutions with which we are favoured, we see that restraint, though used as seldom as possible, is yet considered at times indispensable; and from other information now before us, and to which we will not farther allude at present, we are convinced that what is called 'non-restraint' is a system that must injure the patients of a certain class who are the subjects of it, as well as those in attendance upon them.

The reporters, Dr. Nimmo and Mr. Mackintosh, speak like plain and sensible men.

Delusions of the Insane.—The Reporters notice these at some little length. We have, they say, as usual, several patients who fancy themselves to be gods. Some of them admit the divinity of the others—arrogating to themselves, however, the title of the supreme deity, and allowing the others to be only inferior divinities. They have never observed this delusion to occur in females—possibly our holy religion may have some influence in this exemption; and that in countries where many gods, *male* and *female*, are worshipped, there instances may occur of female lunatics suffering under this delusion. There is a very common delusion, branching out into many varieties, of which we have several instances. *That in which* the patients suppose that their friends, or the medical officers or *servants of the* Institution, are practising on them for the purpose of keeping

them in an Asylum. They have several patients who assert that they are literally drugged with medicine for that purpose, and also to injure their bodily health. They are in excellent bodily health, of course require very little medicine, and get it very seldom. Another patient fancied that the food which was served up to him was principally composed of poisonous reptiles; and at times, in consequence of this delusion, refused all kinds of nourishment, especially fluid, in which he thought that he was more apt to be deceived. Another has taken up the notion that the wine which she is sometimes allowed on account of her health is nothing but the blood of her children, and that it is given her solely for the purpose of prolonging her insanity. No less than four females adopted a similar notion, viz. that the legs of their own children were presented to them under the form of legs of mutton for the same purpose. They were consequently under the necessity of discontinuing this article of food to them for some time, till returning reason dispelled the delusion.

Another very common form of delusion, of which they have several varieties in the Asylum, is that wherein the patients think they are under the influence of evil spirits, or that incantations are practised on them, or that they hold conversation with imaginary beings invisible to all around, and frequently communicating with them from foreign lands. The superstitious character of many of the lower orders of Scotch would seem to give encouragement to this delusion.

Another, not uncommon, delusion is that in which the unhappy patient imagines that he has committed great crimes and is an object of Divine wrath. A wretched and an obstinate form of insanity. But some patients recover from it notwithstanding.

"The last kind of delusion which we shall at present notice, is that under the influence of which the patient is impelled to the commission of violent crimes. The history of crime, in all ages and countries, abounds with cases of violence and murder committed by persons of insane minds, often on those to whom they were most nearly related, and most warmly attached, under the delusion, in some cases, that they were rendering an acceptable service to their Maker; in others, that they were performing an act of kindness to their victims, in removing them from the miseries and persecutions of the world. The motives to the commission of crime by lunatics are infinitely varied. Those already mentioned are probably among the most common. It would be endless to attempt to enumerate the more singular cases, but we may allude to one case which must be familiar to all as an example of delusion of a very singular kind, impelling the patient to the commission of crime. We allude to the case of Hatfield, who fired at his late Majesty George the Third. He laboured under the delusion that he was destined to save mankind by dying a violent death. Suicide, though a violent death, was his own act, and a criminal one. He could not, therefore, support the character of a Saviour of mankind if he took away his own life. He must be put to death by others, and though he could see the incompatibility of the character of a saviour of mankind and a self-murderer, he did not see that the murderer of his neighbour was equally disqualified for his supposed office. But it is not alone lunatics, labouring under such delusions, from whom deeds of violence may be feared. A lunatic is a person whose mind we never can calculate upon continuing long in one state, nor can we anticipate the changes which will be produced in it with the same degree of probability that we can do in the case of a sane mind, when acted upon by similar influences. This is more especially the case with those who have been naturally imbecile. A lunatic in a state of excitement, is always to be dreaded. Though under no delusion, the excitement itself may render him utterly unconscious of his actions; and in such a state, unless carefully watched or restrained, he may commit violence on himself or others. Persons naturally imbecile, or verging on idiotcy, are well known to be in many cases highly excitable, and subject to the most ungovernable bursts of passion from the most trifling causes; under the influence of which they have committed murder,

accompanied with circumstances of the most horrid barbarity. In such cases, though they have been the instruments of depriving a fellow-creature of life, yet they have been the unconscious instruments. We cannot regard them in the light of criminals, for they wanted that which in all cases is essential to crime,—namely, the knowledge that they were doing wrong. Many such accidents might be prevented if the disease were attended to at its commencement, and the unfortunate sufferers placed under restraint; and we have no doubt that institutions such as our own have been the means of preventing a great many such cases from occurring. We have also little doubt that a great many of our patients, had they been left at liberty, might, at some time or other, have committed crimes of a like nature.

It cannot, therefore, be too strongly or too frequently inculcated on the minds of all, that early restraint is not only the most effectual means of relieving the unfortunate lunatic, but also the greatest safeguard of the public from their unconscious violence, or from the no less fatal consequences of their delusions. We cannot drop this subject without expressing our regret, that, in many parts of the country, numbers of these unfortunate beings are allowed to wander about, subject often to the most unfeeling jests and the most brutal usage, and almost entirely dependent on casual charity for a most miserable existence."

GENERAL HOSPITAL AT PICOLATA.

REPORT OF A CASE OF AXILLARY ANEURISM. BY C. M'DOUGALL, M. D. U. S. A.*

John Kane, æt. 24, was shot by the Indians, and wounded in two places; one ball striking midway between the 8th dorsal vertebra and the angle of its rib, appeared in front underneath the skin; the other entering about two inches above the lower angle of the scapula, divided the axillary artery about its middle; there was great hæmorrhage, and he was brought to the hospital in a state of insensibility. After the system had rallied, a ball was extracted from under the skin of the left side, the integuments around the anterior upper wound were found much distended, having a dark livid appearance. At the end of a fortnight, the effused blood and swelling had disappeared, the external wounds were healthy, and the patient was considered out of danger; he continued to improve until the end of the fourth week, when a small pulsatory tumour appeared over the axillary artery, and directly under the external wound; this continued to increase, and, on the 10th day, extended above to the clavicle, pushing that bone out of its natural position, and anteriorly, putting the pectoral muscles so much on the stretch, as to threaten momentarily to give way; pulse at the wrist almost imperceptible; arm insensible to the touch, and motionless.

Apprehending an immediate rupture of the tumour, it was determined to tie the subclavian artery above the clavicle, which was done on the following day; all pulsation at the wrist, and in the tumour, immediately ceased. From this time, the patient went on favourably, the tumour diminishing rapidly, the arm regained its natural warmth, and was fast recovering its sensibility, until the sixth day after the operation, when an alarming hæmorrhage took place, which was at last arrested by syncope; on the following day, bleeding was renewed, and at 12 P. M. he expired.

Sectio Cadaveric.—The pectoralis major was much attenuated; the blood had been forced through its fibres, as through a seive, and in some places appeared incorporated with its substance. The same was the case with the pectoralis

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* The Maryland Medical and Surgical Journal.

minor. Underneath these muscles, an immense mass of coagulated blood, partially organized was discovered. The axillary artery was found completely divided, and the ends retracted about half an inch. Not the slightest adhesion had taken place, the mouths being as patulous as if just cut; veins and nerves uninjured. The subclavian artery was found ulcerated where the ligature had been applied, and presented a scolloped uneven edge at both orifices. No trace of adhesive inflammation in it could be discovered.

Clinical Remarks of M. Velpeau on Abscess of the Iliac Region.*

Causes of Iliac Abscess.—They may exist in the hard or soft parts. Inflammation of the muscles, of the cellular tissue, of the peritoneum, or of the bones of this region, may act as an exciting cause, as well as inflammation of distant parts. Thus, various diseases of the kidneys, of the cœcum, or sigmoid flexure of the colon, may give rise to the presence of purulent collections in the iliac fossa; they may also depend on perforation, scirrhus or cancer of the intestines, diseases of the chord and testicle, hernia and the operations for its relief, diseases of the bladder, or prostate gland, the urethra, &c. Iliac abscess may depend on disease of the groin, or thigh; thus inflammation of the *bursa mucosa* of the psoas and iliacus muscles, or of the hip-joint, is a frequent cause of iliac abscess. Disease of the female genital organs is, likewise, a very frequent cause of this affection. Diseases of the ovary, for example, may give rise to two species of iliac abscess. When the serous lining of the ovary is inflamed, the pus which descends to the iliac fossa is contained in the cavity of the peritoneum; but if the substance of the ovary be inflamed, the abscess is then seated outside the cavity.

Diseases of the womb are very often an exciting cause of abscess in the iliac region; this we can readily understand. In cases of metritis, the inflammation easily extends to the cellular tissue of the broad ligaments, and with them to the iliac fossa.

Disease of the bone is a frequent cause. Buboes may give rise to it. There is in the hospital a young student in medicine, who had been affected with bubo; the tumour suppurated, and the inflammation extending from the glands in the groin to those in the iliac fossa, the consequence has been the formation of abscesses in the latter part.

Seat of the Abscess.—The abscess may be situate first, in the parietes of the abdomen covering the iliac region; second, in the iliac fossa underneath the peritoneum; and third, in the peritoneal cavity.

Abscess in the Abdominal Walls.—Inflammation of the inguinal glands is frequently the cause of this species of iliac abscess; it may also depend on inflammation of the chord, hernia, or on operations performed in this region. Abscesses in the abdominal wall of the iliac region are of three sorts; first, they may be seated between the integument and the fascia of the external oblique muscle; in this case they may be extensively diffused. Diseases of the urethra may occasion this diffused inflammation—for example, ulceration at the spongy or bulbous portion of the canal.

Second, the abscess may be situate in the inguinal canal.

Third, it may have its seat between the peritoneum and the muscular wall of

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* Prov. Med. and Surg. Journ. Feb. 12, 1842.

the abdomen, behind. These are important distinctions, because the treatment must necessarily vary according to the seat of the abscess.

Abscess in the Iliac Fossa.—The following observations are extremely good, though rather long. "These abscesses always depend on inflammation of the peritoneum, or genital organs, and present some varieties with respect to their seat, which you should be acquainted with. In some cases the abscess is seated beneath the peritoneum; sometimes under the fascia iliaca; sometimes in the peritoneal cavity. When the pus collects under the peritoneum, it extends rapidly towards the flank or in the walls of the abdomen, extending even to the inguinal canal. These abscesses may depend on diseases of the kidney, caries of the spine, ribs, or pelvis, and diseases of the womb or genital organs. The third species is that in which the abscess is situate under the fascia iliaca. This layer, arising from the fibrous band which envelops the origin of the psoas muscle, becomes gradually thicker as it descends to the iliac fossa; here it encloses the anterior circumflex artery, and joins the fascia transversalis; over the fleshy part of the psoas muscle it is thin, but it thickens over the tendinous part, and passing downwards joins Poupart's ligament. The iliac fascia thus forms the anterior half of the iliac canal, which contains the psoas and iliacus muscles, and terminates inferiorly in the thigh. The superior aperture of the iliac canal is limited behind by the ilio-lumbar ligament with the transverse process and body of the last lumbar vertebra. The fibrous sheath of the psoas connects the fascia iliaca to the ligament of the diaphragm, and hence we have a long trajet continuous from the diaphragm to the lesser trochanter. This brief description will help to explain to you the symptoms arising from the presence of pus in the iliac canal. When the pus comes from inflammation of the cellular tissue of the iliac fossa, or some more distant part, it must follow a certain course; if it descends between the peritoneum and fascia iliaca, it will come out by the crural or inguinal canal, and the abscess will be superficial. In cases of psoitis, on the contrary, or of deep-seated caries of the vertebræ, the matter commonly gets under the iliac fascia, and follows the course of the iliac canal, being very deep and long before it appears externally; it either descends with the psoas and ilacus muscles to the thigh, or ascends to the flank and lumbar regions.

This, however, must be considered only as a general description; for as the matter may work its way through various tissues the abscess may be combined in different forms.

When abscess is seated underneath the fasciæ the case is always a dangerous one, because the matter almost always depends on some disease of the bones, or of the hip joint; in the latter case the pus works its way from the joint into the synovial bursa placed between the articular capsule, the body of the pubis and iliac tendon; and as the bursa frequently communicates, either accidentally or naturally, with the cavity of the hip-joint, any infiltration of matter from the spine or pelvis may pass through it into the joint. Hence we often have disease of this latter part supervening on affections of the vertebræ, which terminate in abscess.

As I have already mentioned to you, the iliac canal leads from the iliac fossa to the upper part of the thigh; this circumstance explains the different degrees of depth at which abscesses form in the thigh in different persons. When the pus descends through the femoral canal, the abscess is subcutaneous; but when it passes under the iliac fascia, and through the inguinal canal, it must be deep-seated. In some cases the matter makes its way through the deep layer of the fascia iliaca, ascends towards the obturator foramen, and presents near the ischium; in other cases it works between the glutei muscles, triceps, and fascia lata, and points below the great trochanter. From this you may see how the pus *may open* at various points of the limb, and how we are able, in many instances, *to ascertain* the source of the matter from the place at which the abscess points.

From the pelvis the matter may pass into the groin through the obturator foramen, under Poupart's ligament, or even through a perforation of the cotyloid cavity; or the opposite of this may occur. In 1832 I saw a patient with abscess, which commenced underneath the fascia, behind the cotyloid cavity; the pus made its way through the inguinal and crural canals and the obturator foramen, then between the adductor and pectineus muscles, and winding round the neck of the femur, presented at the upper and outer part of the thigh. In another case the trajet of the abscess was the same, but it ascended as high as the edge of the tensor fasciæ femoris muscle."

We don't see any thing to notice in M. Velpeau's observations upon treatment.

ROYAL BERKSHIRE HOSPITAL.

TREACLE AND WATER FOR BURNS.*

Mr. Bully used this with very good effect in a case of scald from melted pitch. In the first instance he employed a paste composed of equal parts of treacle and flour. We need not mention the particulars of the case, but content ourselves with the concluding remarks of Mr. Bully.

"In recording the treatment adopted in the foregoing case, I do not wish to take any credit to myself for employing a remedy with the virtues of which, in such cases, surgeons have been long acquainted. Mr. Greenhow, of Newcastle, first introduced it into practice, using it as a defensative, for the purpose of preventing the access of air to the denuded parts. He did not, I believe, continue to use it throughout the whole progress of the case, but substituted for it other applications which the circumstances of the case might afterwards seem to require. In the commencement of the preceding case I used it, mixed with flour, for the same purpose of excluding air, but finding it occasioned pain, and that I could not properly see what was going on underneath, although it had seemed to promote the growth of granulation, I determined to use equal parts of treacle and water, on rags, constantly applied as a lotion to the injured surface. The application of treacle in this manner has convinced me by the result of this, and other cases similarly treated, that it has some specific effect in expediting the cicatrisation of burns and scalds, however extensive they may be, and that it prevents, in a great degree, the unsightly puckering and contraction which too often interfere with the proper actions of joints involved in these accidents. I have, since that time, had several opportunities of testing its value as a remedy in these cases; and have, from what I have seen of its effects, adopted it in every case of the kind which has come under my care, both in hospital and private practice; and in each case it has seemed to have been instrumental in preventing, or at least diminishing, the chances of consecutive contraction."

MIDDLESEX HOSPITAL.

DR. WATSON ON CANCER OF THE STOMACH.†

From amongst some good remarks on cancer of the stomach we select one or two.

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* Provincial Medical and Surgical Journal. Feb. 5, 1842.
† *Medical Gazette*, March 11, 1842.

Occasional Obscurity of Symptoms.—" Not long since I saw, in consultation, an elderly clergyman who complained of pains in his back, which were brought on or aggravated by certain movements of the body. His bowels were costive; and purgatives always relieved his pains. He was passing lithic acid gravel. The pains were felt in or near the renal region. Several years before he had suffered in a similar manner; and had then been cured by being cupped in the loins. What was the matter here? Was it lumbago? Was there a calculus in one of his kidneys? These were the best guesses that I could make. The eminent physician whom I met, and a surgeon of no less eminence, who had seen the patient previously, had not been able to attain any more exact diagnosis. Upon this gentleman's death, which occurred not long afterwards, his disorder was discovered to have been cancer of the stomach. Excepting slight sickness a day or two before he died, there had been no symptom to direct attention to that part."

Pulsating Tumour occasioned by Scirrhus.—A young woman came into the Middlesex Hospital, under one of Dr. W.'s colleagues, with a pulsating tumour in her epigastrium. It was thought, at first, to be an aneurism, and the case attracted, on that account, a good deal of notice. But the tumour subsided very much after free purgation. This led some to suppose that it was formed by accumulated fæces in the transverse colon. There was no sickness; nor indeed any one symptom referable to the stomach. She died. The tumour was cancerous; and in the stomach. Lying in front of the abdominal aorta, it had been lifted by its pulsations.

We were requested about a year ago, to meet a gentleman in consultation on a somewhat similar case. But the pulsating tumour was in the *left iliac* region. It was small and firm, and pulsated strongly. We gave it as our opinion that the case was either one of schirrhus of the omentum, or of the pylorus. It turned out to be one of the latter.

General Laws with regard to the Symptoms.—1st. That there is more suffering *cæteris paribus* when the cancerous disease is situated at, or very near, either extremity or orifice of the stomach, than when it occupies the intermediate parts: whether in the greater, or in the lesser curvature.

2nd. That when the cardia, and its immediate neighbourhood, is the part solely or principally diseased, the food and drink find a hindrance in passing into the stomach; but being once there, the distress is over. The symptoms are very like those of stricture of the œsophagus. The morsel reaches the bottom of that tube, and there causes uneasiness, till at length it is brought up again through the mouth, or passes gradually in the natural direction.

3rd. That when, on the other hand, the disease is limited to the pyloric end of the stomach, the food enters that bag readily enough, and remains there for a certain time; then uneasy sensations arise, and the imperfectly digested meal is apt to be rejected by vomiting.

BRIDGEWATER INFIRMARY.

SUCCESSFUL AMPUTATION DURING THE PROGRESS OF TRAUMATIC GANGRENE.*

The case is related by Mr. Toogood, surgeon to the Infirmary.

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* Prov. Med. and Surg. Journ. Feb. 26, 1842.

Case.—Charles Tuck, a farm servant, aged 24, received the contents of a common fowling-piece in the hand on Friday, the 4th of February, which passed up the flexor muscles and through the integuments of the fore-arm about three inches above the wrist. A neighbouring surgeon saw him soon after the accident, and directed cold applications and rest. On the following Monday he was admitted into the Bridgewater Infirmary. There was a ragged wound at each opening, the limb was but little swollen, and the only unfavourable appearance was, that the nails looked rather dark coloured. There was very little constitutional disturbance. He was put to bed, a poultice applied over the whole limb, and the usual treatment directed. On the next day the aspect of the limb was the same; but as there was more swelling in the evening and some heat, leeches and fomentations were ordered. He slept perfectly well until five o'clock the following morning (Wednesday), when he was awoke by pain, which rapidly increased and became very severe. At seven o'clock the limb was found to be gangrenous to the elbow, and before his consent to its removal could be obtained, and the necessary preparation made, it extended so high up, as barely to leave room to amputate close to the shoulder joint. There was no line of demarcation, but I cannot, at this distance of time, recollect the precise point to which crepitus extended, but I am inclined to believe it was quite to the joint, as it was debated whether it would not be the safest plan to remove the bone from the socket. Very little blood was lost during the operation; the constitutional irritation subsided in a few hours; the patient became tranquil and soon recovered.

Every case of this kind is a valuable accession to the stock of practical knowledge.

TUMOURS OF NERVES.*

1. DISSECTION OF A TUMOUR FROM THE SCIATIC NERVE.

The following case is taken from a Clinical Lecture on Tumours of Nerves, by M. Velpeau.

"I saw a case of ganglion which occupied the sciatic nerve; it was seated on the back of the thigh about four inches below the buttock; it had existed for several years, and acquired the size of a child's head. The tumour was extirpated in the following manner:—The patient was placed on his belly, with the legs separated, and supported by assistants, I made an incision six inches long from the ischium, dividing the subcutaneous fascia and the fascia lata; the tumour was thus exposed, drawn backwards, and dissected with caution from the edge of the biceps; it was now evident that the tumour was confounded with the sciatic nerve. The fear of gangrene or paralysis made me hesitate for a moment, and reflect whether it might not be possible to separate the tumour from the filaments of the nerve. I detached the circumference, and dissected the upper and lower parts of the nerve, as if I were making an anatomical preparation, and found that about one-third of its thickness was free, while the remainder was spread all over the bottom of the tumour. The patient bore this painful dissection with the greatest fortitude, and this gave me additional courage to proceed. I, therefore, dissected away each filament, pushed them aside, and at last succeeded in completely isolating the tumour. The cavity which remained was large enough to contain my two fists; I filled it with lint. During the first fortnight the patient complained of numbness and incapability of mov-

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* Prov. Med. Journ. Feb. 26.

ing the parts about the foot and ankle, but these gradually disappeared, and she was completely cured in three months. M. Chelius and M. Roux have published similar cases: but in that mentioned by the latter surgeon the tumour was cancerous, and finally destroyed the patient."

2. PAINFUL NERVOUS TUMOURS OF THE THORAX.

"The chest is frequently the seat of painful nervous tumours; I have often removed them from this part of the body. A lady suffered for many years from neuralgic pains in the right side of the chest. There was a small tumour, about the size and shape of an almond, between the tenth and eleventh ribs; and the pain seemed to originate from this point. In order to expose the tumour I had to divide the integuments to the extent of two inches, the subcutaneous fascia, some fibres of the dorsal and external oblique muscles, and the layer of tissue which covers the external intercostal muscles. When the tumour was raised up by a hook the patient experienced violent pain; it was easily removed, and complete recovery ensued in a short time. A year afterwards, however, I had to perform a similar operation on the same patient for another tumour, which appeared about an inch below and behind the first one. After this the patient had no relapse.

In 1836, there was a young girl at La Charité affected with a painful tumour in the same region, but on the opposite side of the body. In this case, although the ganglion was subcutaneous, I was unable to heal the wound by the first intention. I have seen a third case of painful ganglion in the same region, in a female; and am inclined to think that the friction caused by the petticoat or robe may have been an exciting cause of the disease."

REPORT OF METROPOLITAN COMMISSIONERS OF LUNACY.*

The following is the Report of the Metropolitan Commissioners for the last five years.

Number of Houses under the Care and Inspection of the Commissioners.

Pauper and private patients	4
Private patients only	32
Total	36

Expenses of Commission.	£.	s.	d.
Fees to two barristers	2920	0	0
Ditto to five physicians	6498	0	0
Salary of secretary	2000	0	0
Chaise hire, and other expenses	2165	17	10
Total	13,583	17	10

Average cost of inspecting each house, £388.

Results.

Licenses refused	1
Ditto, suspended	0
Ditto, revoked	0
Total	1

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* Lancet, March 19, 1842.

It further appears that, of the thirty-two houses for private patients—
5 are kept by resident medical proprietors.
4 situated respectively at Clapham, Upper Clapton, Chelsea, and Fulham, by physicians resident in London.
16 by resident proprietors, not being medical men.
7 by non-resident proprietors, not being medical men.

32

It also further appears, that of the counties under the joint jurisdiction of the commissioners and the quarter-sessions, 14 contain no licensed houses, and the remaining 26 contain 87 only, and these 87 houses do not include above 2500 patients of all ranks.

It further appears, also, that in 25 of these 26 counties, the returns of licenses refused, suspended, and revoked, is *nil;* in the remaining county, viz. Dorset, the return is—Refused, 1; suspended, 0; revoked, 0.

Extract from the Annual Report of the Metropolitan Commissioners for 1838:—

"It appears from the returns already mentioned, that the total number of licensed asylums within England and Wales, exclusive of the metropolitan districts, is only about eighty, and that in a large majority of these the number of patients is extremely small; it further appears, that in several of the largest counties in England, and in the whole of Wales, not a single licensed asylum was to be found, a circumstance which the commissioners can hardly reconcile with facts that have otherwise come to their knowledge. It would seem to be a not unfair inference, that besides the houses for which licenses have been taken out, in conformity with the Act of Parliament there must exist in different parts of the country other and unlicensed establishments in which persons are confined as insane patients (perhaps even without medical certificates) in contempt and defiance of the law. To what extent this practice prevails the commissioners have no means of forming an opinion, but it is one which may obviously lead to the most glaring and dangerous abuses, and which, therefore, strongly calls for a searching investigation and an effectual remedy."

Ditto, for 1841:—

With the view of rescuing persons, as far as may be, from unnecessary discomfort during their residence in these asylums, and in order to promote their liberation as soon as it can be effected with safety, the commissioners *have issued express direction* (quere, *when?*) that a sufficient number of keepers shall in all cases be employed *so as to obviate the necessity of personal restraint, except in extreme cases;* and they have also endeavoured to establish some system of classification, in order that the convalescent patient may neither be confounded with the others, nor his recovery be retarded by associating with persons labouring under violent or confirmed mania.

It is satisfactory to add, that these endeavours have been seconded by the proprietors and superintendents of the three large houses, where classification is chiefly necessary. The commissioners feel bound to report, that those persons have *lately* bestowed much attention on this subject, and have, in fact, incurred considerable expense in carrying into practice the recommendations of the commissioners."

CLINICAL LECTURE ON VARYX. BY M. VELPEAU. HIS OPERATION FOR VARICOSE VEINS.*

A strong, sharp pin, with a large head and a waxed thread, are the only instruments that I use. The position of the patient is a matter of some importance.

* Prov. Med. Journal. March 19, 1842.

He must be placed in such a posture as will render the veins tumid and prominent. The trunk of the vein is now raised up with the fingers' end, the pin is passed below the ends of the nails and underneath the vein; it will be necessary to protect the finger with a thimble or a roll of linen, for the tissues under the varicose vein are often very hard and resistant. This simple process must be repeated with regard to every dilated vein; eight, ten, twelve, or fifteen pins may be required from the foot up to the knee, but, generally speaking, three or four are sufficient. When the veins are free and moveable under the skin, it is easy to pass the pins under them; but, when they are applied closely to the bones, this is sometimes impossible; you must then pass a strong pin perpendicularly downwards, and then direct it obliquely under the trunk of the vein. The pins, being all placed, are fixed with threads; at first I applied the ligatures as we do for hare-lip, but this did not exercise sufficient pressure. I now twist the thread circularly round the pin, and draw it tight. The pins and ligatures are not removed before the sixth or twelfth day, when the tissues embraced between them have been destroyed. But even if the eschar be not detached at this period I remove them, because I feel confident that the vein is obliterated.

The introduction of the pin gives very little pain, but the constriction exercised by the ligature is excessively painful. Hence, you should commence with the highest pin, in order to cut off the nervous communication as much as possible. The effects of the operation are simple. The tissues embraced by the ligatures mortify and are separated, leaving a sore, which soon heals up. A hard chord forms above and below; this is the vein in process of obliteration. No dressing is required after this operation. You have merely to cut short the ends of the pins, to prevent them from pricking the patient. Unless the inflammation be severe the patient may go about; if it be excessive, then you confine him to bed, and have recourse to the antiphlogistic treatment. As soon as the eschars come away, the small sores which remain are treated as common abscesses or burns."

It seems that M. Velpeau has performed a great many such operations, with what success may be judged from the following confession.

"You may ask, however, if it always succeeds in establishing a radical cure. Our answer must be, No. The disease will not always yield. When one dilated vein is obliterated, three or four others soon appear, the superficial branches anastomose with the deep ones, and nothing is more difficult than to obstruct completely the circulation in a varicose limb. Hence the efficacy of every process or method that may be proposed for the radical cure of varix is extremely doubtful."

If this be the case why operate? We do not ourselves see the propriety of persevering in performing operations which, it is confessed, do not answer. For observe, that it is not a mere question of a few pins, more or less, in a man's leg, but one which concerns his very existence.

Case.—A man, 34 years of age, of good constitution and enjoying excellent health, was admitted into la Charité with an extensive varicose condition of the legs. The operation was performed in the usual way on the 4th of April. Several pins were passed under the veins, and the ligatures drawn tightly round them. The pain thus occasioned was very severe, and continued for several days; some slight inflammation set in around the pins. On the 10th two pins were removed, and on the 11th some more. Up to the 15th no untoward symptom appeared, but on the evening of that day the patient was seized with frequent shivering, nausea, and vomiting. On the morning of the 16th he was in the same state; the tongue was white; mouth dry; vomiting of green fluid; skin hot; headache and prostration; pulse quick; leg red and swollen. He was at once bled from the arm. On the 17th the vomiting ceased; there was delirium, slight stupor, pain of abdomen, and diarrhœa. The swelling of the leg extended up to the

thigh; the pulse was small and frequent, and there were several livid spots on various parts of the body. On the 18th all the symptoms were aggravated, and the man sank on the following day.

On examining the body after death, the vessels were found full of very fluid blood, but there was no trace of pus in any of them. The vein which had been operated on was not obliterated.

Here was a man cut off in the prime of life by an operation, which *could not* have succeeded, for a mere inconvenience which a bandage *would* have remedied. We do not hesitate to tell M. Velpeau that operations of this description are carried on far too freely in France. He has many good points, and to set his face against the rage for operating that prevails in his own country would be the very best of them.

Clinical Lecture of Sir B. Brodie on Abscesses.*

Amongst other interesting and useful observations, Sir B. Brodie discusses the question whether matter once formed can be absorbed. He treats it thus:

Dr. Macartney states that he has seen the matter of a psoas abscess absorbed, and it has been said that the matter of a bubo has been also taken up. I recollect the case of a gentleman who had an abscess presenting over the ileum. I diagnosticated that there was dead bone; but in time the tumour, or abscess, or whatever else it was, entirely disappeared. A young man had scrofulous disease of the knee; it was packed up in splints and bandages, and in time all trace of the tumour disappeared. A young lady was affected with disease of the spine, and there was a hard solid tumour discoverable in the abdomen; this is now many years ago, and the last time I heard of her all trace of the tumour had disappeared, and she had quite recovered. Such facts as these would lead to the belief that the purulent matter poured out in these cases had been absorbed. I consider the point to be a very doubtful one on which to pass a certain decision. A man was in this hospital with lumbar abscess; in the course of time it disappeared, and re-appeared again in its original situation. I have opened many suppurating buboes, but without meeting with any pus; and it frequently happens in these cases, that the soft fluctuation felt under the skin arises from a collection of serum between the gland and the skin, and nothing more. A girl had a tumour over the sternum, which inflamed; I pierced it with a lancet, and a large collection of serum escaped; this got quite well; by and by another tumour formed in the same place of a similar kind. I did not open this one, and in process of time it disappeared spontaneously; and, if I had not opened the first tumour, I dare say that it would have been absorbed.

NORTHERN HOSPITAL, LIVERPOOL.

Successful Amputation during Spreading Traumatic Gangrene.†

A few pages back we have noticed a successful case of amputation during the progress of traumatic gangrene, by Mr. Toogood, of Bridgewater. Here is another, evidence enough of the propriety of the practice. Our readers will not fail to observe that both are instances of gangrene of the *upper* extremity.

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* Prov. Med. Journ. March 5, 1842. † Med. Gaz. Feb. 25.

Case.—David Wright, æt. 23, admitted Sept. 12, 1841, was brought to the hospital early in the morning in a state of intoxication, having been engaged in a street fight. The left arm presents the following appearances: there is a wound at the inner side of the elbow joint three inches in length, extending obliquely over the inner condyle of the left humerus, which, with the trochlea surface, lies exposed in the wound, but does not protrude; the ligamentous and tendinous structures at the inner side of the joint are completely divided, and two small portions of bone, detached from the interior condyle, can be felt in the wound; the olecranon process projects backwards remarkably, and on further examination it appears that the joint has sustained a dislocation of both bones backwards. On introducing the finger into the wound, and grasping the parts in front of it, no pulsation of the brachial artery can be perceived; the sensibility of the hand and fingers is unimpaired: considerable venous hemorrhage seems to have taken place, but the bleeding has now nearly ceased. After removing the loose fragments of bone, and reducing the dislocation (which was very easily effected by slight extension,) the edges of the wound were brought into apposition by strips of adhesive plaster, over which a piece of lint dipped in blood was applied: the fore-arm was brought to a right angle with the arm, and the joint kept perfectly quiet by being laid on a tin splint. On the morning of the 15th, a gangrenous spot was observed at the inner side of the fore-arm. On the 16th, the gangrene had considerably extended, involving nearly the whole of the fore-arm, and extending rapidly to the arm; no appearance of a line of demarcation could be observed; the countenance had become anxious, features sharpened, pulse 120, and weak. A consultation was then called, at which it was resolved to perform immediate amputation of the member, which was accordingly done four inches below the shoulder. The operation was performed by the circular method, but presented no point of interest; the stump went on favourably, his general appearance progressively improved, and on the 19th Oct. he was discharged.

DIAGNOSIS OF ASCITES AND OVARIAN DROPSY BY PERCUSSION.

Dr. Watson, in his lectures, points out the manner of distinguishing these affections by percussion.

In true ascites the relative place of the liquid and of the intestines is determined by the posture of the patient. The bowels, which always contain some gas, float to the upper part of the liquid, and there give out (when the finger, as a pleximeter, is applied to the corresponding surface, and struck) their peculiar resonance. Mediate percussion will thus follow the gravitating fluid, and discover always a dull sound in the lowermost and a hollow sound in the uppermost part of the abdomen.

But it is not so in ovarian dropsy. The cyst, in a diseased and enlarging ovary, rises in front of the intestines, which, being tied down by the mesentery, cannot embrace the tumour so as to reach its anterior aspect, but are in fact pressed back by it towards the spine. Hence, if there be any resonance produced by percussion, it is in one, or the other, or in both, of the flanks; and the umbilical region yields a dull sound whatever the position of the patient may be. The same is true of the enlarging womb in pregnancy.

This simple expedient, then, is quite decisive. In ascites the epigastric or umbilical region is tympanitic on percussion; in ovarian dropsy it is dull. To be quite sure it is well to make the patient assume different postures in succession. If the person affected with ascites turns upon her side, the uppermost flank will

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* Med. Gaz. Feb. 25.

become resonant; the umbilical region dull: whereas in ovarian dropsy, the sounds remain severally where they were under every change of position.

Dr. Watson alludes to three exceptional cases.

1. The distention, in true ascites, may be *so* great, that the mesentery shall not be broad enough to allow the buoyant intestines to reach the surface, when the patient is supine. Dr. W. has seen such a case.

2. The intestines may be tied down, and so prevented from ascending, by their specific lightness, to the upper part of the surrounding liquid. And this may happen, either in consequence of the adhesion of the various coils of the intestines to each other, and to the parts behind them; which is not an uncommon occurrence:—or the intestines, though unadherent, may be swathed, as it were, and bandaged down, by a thickened and diseased omentum.

3. Dr. W. once knew an ovarian cyst to exist, when the umbilical region was tympanitic under percussion. The case furnished just that kind of exception which serves to prove a rule. This was also a hospital patient. Her *history* was the history of ovarian dropsy. Some time previously she had discovered a small tumour in one of the iliac regions. It increased without much disturbance of her general health, until it became very inconvenient from its bulk. She was then tapped in one of the Borough hospitals: and she stated distinctly that it was not a clear watery fluid that was evacuated; but a glutinous, mixed, and grumous matter: such as belongs to ovarian disease. No doubt could be entertained that the enlargement of the abdomen resulted from disease of that kind. Yet the umbilical region, when percussed, always rendered a hollow sound. Upon the death of the patient the mystery was solved. Air hissed forth from the opening made by the scalpel through the abdominal parietes; and the source of it being traced, an ovarian cyst, of considerable magnitude, was found adhering to the peritoneum in front of the belly, and containing no liquid, but some yellowish shreds only; the remains, apparently, of some smaller included cysts. This ovarian bag had been filled with air, and had given occasion to the equivocal sounds.

Dr. Watson alludes to the possibility of confounding a much distended bladder with ascites. John Hunter once made this mistake, and operated.

ST. MARYLEBONE INFIRMARY.

DIURETICS IN PHTHISIS, CHRONIC CATARRH, &c.*

Dr. Clendinning, in some clinical lectures that he has been delivering, has been directing attention to the use of diuretics in the above-mentioned affections. His reasoning is, at the very least, ingenious. "Now," says he, "the use of these diuretics in cases where what are called expectorants are commonly chosen, seems worthy of trial in many cases of chronic pulmonary catarrh, simple or complicated. There is no use, I think, in stimulating action in the exhalent surfaces or secreting vessels of the air-passages by means of expectorants, except in the acute or actively inflammatory stages and states of catarrhs of the lungs. When the disease has become indolent, chronic, or passive, the best treatment is that which is most analogous to the proper management of other habitual fluxes or excessive discharges; namely, first, by direct repression of the disease by inhalation of appropriate vapours or gases, or circuitously by means of astringents, such as lead, alum, zinc, or copper, by the stomach, &c.; and, secondly, by derivatives which cause determinations of blood, and of nervous action to

* Lancet, March 12.

other organs and tissues, and therefore away from the surface of the air-tubes; such are emetics, purgatives, blisters, warm-baths, &c. This view is confirmed by the partiality of some of the first authorities of the profession to several drugs which are unquestionably diuretics, and are also supposed to be possessed of expectorant powers; I mean squill, terebinthinates, particularly copaiba and other balsams, lobelia, nitrous ether, &c. &c. The occasional efficacy of each of those in chronic catarrh is unquestionable, and the diuretic property of each of them is quite certain, but their expectorant power in some measure, if not altogether hypothetical. The view I am now explaining is further confirmed by the fact, that in chronic catarrhs, antimony, and tartar-emetic particularly, are rarely employed as expectorants merely, while ipecacuan is less frequently used very much and less successfully, I am satisfied, that in acute bronchitis; yet none can doubt the power of either of those over acute inflammations of the pulmonary surfaces or substance."

KING'S COLLEGE HOSPITAL.

MR. FERGUSSON ON THE CIRCULAR AND FLAP OPERATIONS.*

We all know how incontinently some surgeons laud the flap amputation, and how they affect to look down on the circular, while their pupils, taught *jurare in verba magistri* follow open-mouthed and in full cry upon the same scent. But sober-minded people are not caught by clamour, and quietly judge for themselves. Such a person is Mr. Fergusson, acknowledged to be a highly dexterous operator. We quote from one of his Clinical Lectures.

Mr. Fergusson said that he had removed the limb by what was usually called the double-flap operation; and his chief reason for selecting this method was, that he was more in the habit of performing the flap operation than the circular. Many surgeons were in the constant practice of performing the latter method in this part of the body as well as in others. Some had imagined that in consequence of the flat shape of the fore-arm, and the soft parts being chiefly in front and behind, it was particularly advisable to make the stump of flaps. He thought the choice of methods of less moment than many appeared to do. He thought that if a circular operation were properly performed, as good a stump might be produced as by the most adroit performance of the flap. Though he considered himself an advocate of the flap operation in general, he did not, in consequence, condemn the circular. He was of opinion, that the question of superiority had never in this country been fairly tested, for the advocates on either side were in the custom of confining themselves to the performance of only one kind of operation, and therefore, from their own experience, could not give an unprejudiced verdict. He did not admit that a person who invariably amputated with a flap could give such a decision, nor could it be expected from him who only followed the circular method. He should deem that opinion to be most entitled to consideration, which was given by a party who had operated an equal number of times, say fifty of each, by the two methods.

* Lancet, March 12, 1842.

Spirit of the British and American Periodicals, &c.

Homœopathy and Dr. Ure.

During a visit to Paris, Dr. Ure met the founder of the homœopathic system, who undertook to cure him of an obstinate constipation, by a course of infinitesimal doses. He gave him a portion of powder on the point of a pen-knife, which was to be dissolved in fifteen ounces of water, and one ounce of brandy—a teaspoonful of which was to be added to a tumbler of water. A teaspoonful of this latter was to be taken every morning, and the remainder thrown away. He did not hesitate to try the remedy, but had reason to regret following the advice which accompanied it, which was to use no remedy to remove the constipation. In the course of a few days the symptoms became so alarming, that he narrowly escaped with his life, and has never entrusted himself to a homœopathic doctor since that time.—*Pharm. Trans.* Oct. 1, 1841.

If Dr. Ure was such a goose as to trust to homœopathy to open his bowels, he was served as any reasonable person would have expected.

First Introduction of Syphilis into Scotland.*

At the Medico-Chirurgical Society of Edinburgh, Professor Simpson read a communication relative to the history of the first introduction and diffusion of syphilis in Scotland at the end of the fifteenth century. He cited official edicts of the Aberdeen magistrates, and of the king's privy council respecting the new "infirmitez,"—issued during the currency of 1497, with various casual notices of the distemper from the contemporaneous writings of Dunbar, Lyndsay, Inglis, &c. In these early times the disease passed in Scotland under the various names of grand gore, gorre, pockis, spaynie pockis, French infirmitez, &c. Dr. S. alluded to an entry in 1502-3 in the privy purse expense book of Elizabeth, Queen of Henry VII. as containing the earliest notice of the disease in England, that he had been able to meet with. The first Scottish edicts were made with a view of arresting the progress of the disease, and ordained the application of a hot key of iron to the cheek, as the punishment of those who infringed their regulations. The Aberdeen edict was dated only four years and a month after the return of Columbus from his first voyage to Hispaniola. This edict was remarkable as being founded on the idea that the new malady disseminated itself by impure sexual intercourse—while, as is well known, it was not for several years afterwards, that this opinion of its mode of propagation, was adopted by the medical men and authors of these times. The Edinburgh regulations presupposed the disease to be communicable even by the persons that took the cure upon them, though these persons were themselves uninfected. Lastly, Dr. S. proceeded to show from the old data which he had adduced, that syphilis was new to this part of Europe, at the date of the edicts, that it was hence different on the one hand from gonorrhœa, and on the other from the leprosy of the middle ages,—both of which affections were well known in this country, before the era in question.

* London and Edin. Monthly Journ. Med. Science, Feb. 1842.

HYPOCHONDRIASIS.*

Mr. Roberts has taken a good deal of pains with this rather ticklish subject. He tells us that the seat of the disease is in the head, the gastric symptoms being merely accidental and sympathetic: In the 1st place, Because the evidences of disease in the stomach are occasionally entirely wanting. In the 2d, Because, when present, they may be cured without producing any alleviation of the cephalic signs. In the 3d, Because they often end in those maladies which are recognised as purely cerebral, while they never degenerate, as far as his experience goes, into organic diseases of the stomach.

We think that this question is like that on the colour of the chamelion—contrary opinions are both right and wrong. One man has hypochondriasis—gradually there supervene unequivocal cerebral symptoms—and, probably, in that case the hypochondriasis had its seat in the cerebrum. Another has indigestion—hypochondriasis torments him—his indigestion is relieved, and so is his hypochondriasis. This is a common case enough, and the very same reasoning which locates the complaint in the head in one instance ought, surely, to locate it in the organs of digestion in the other. We suspect that the latter is the more ordinary case.

Treatment.—Find, says Mr. R., the cause, and remove it if you can. Treat symptoms, in short. Mr. Roberts is not the most stringent man in the world with regard to diet, but he denounces wine, &c. and lauds ammonia. He says —"there are certain articles that must be prohibited in all cases. These are, fermented liquors of all kinds, such as beer, wine, spirits, &c.: also spiced foods and peppers, all of which should be indulged in with great caution; they act like heat, as excitants, and thus tend further to exhaust the already exhausted powers of the brain. Here, again, we must act with circumspection. When a person has been long habituated to the free use of liquors, the sudden withdrawal of them induces a state of depression not easily overcome: yet, in every instance they should be gradually decreased, and speedily relinquished, and when necessary, medicated stimulants should be substituted. Of these, ammonia is the most generally applicable; it has a peculiar influence on the mind, which scarcely any other medicine possesses, and, I think, it may sometimes be beneficially employed. The temporary change thrt follows, and the suspension of the morbid train of ideas, are often succeeded by a more happy condition. It should be exhibited in small successive doses for several days. Violent stimulants suddenly administered, cause a temporary hilarity, but when their effects cease, a deeper shade of oppression ensues. But by a proper and well-timed administration of this remedy, the mind may be retained in a quiescent state for so long a period, that either the morbid ideas are lost, or only imperfectly recur.

We have found the combination of ammonia and hydrocanic acid very useful. Sometimes it acts like a charm.

He is a *warm* advocate of the application of *cold* to the head. Cold water should be poured over it twice, or even three times a-day. Where the patient is strong, this may be done by pouring it in a stream from the spout of a kettle, or by making him hold his head under the cock of a cistern for a minute or two, while the water is running. When, however, his age or his debilitated condition will not admit of the use of so violent a remedy, a local shower-bath may be made with a moderate-sized watering-pot; and, if necessary, the water may at first be poured over the head tepid, and after a few days, reduced to a lower temperature.

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* London and Edin. Monthly Journ. Med. Sciences, Feb. 1842.

It is essential that the quantity of sleep should be regulated. Hypochondriacs often sleep indifferently, and yet continue in bed till near the middle of the day. As a general rule, it may be said, they should not be allowed to lie in bed longer than eight hours. They should retire to rest early—say 10 or 11 o'clock—and be made to rise at 6 or 7 in the morning. In fact, they should be directed to get up as soon as they awake, even though this should be four or five o'clock.

And Mr. Roberts winds up with horse exercise.

The Art of Percussion.

Dr. Bennett has contributed to our Edinburgh Monthly contemporary a long article on percussion. He is a disciple of M. Piorry, and has the lessons of his preceptor at his *finger's ends*. We shall make a note or two from his remarks.

1. *What hard work Percussion is.*

"In percussing, M. Piorry uses a circular ivory pleximeter, which he generally strikes with the tips of the first, second, and third fingers of the right hand, brought into a line, and pressed together by means of the thumb. The reiterated blows which it is necessary to give the pleximeter, during a careful examination of all the thoracic and abdominal organs, demand considerable physical exertion. This duty can scarcely be performed even by an expert percussor in less than half an hour; and if three or four patients are to be examined, it becomes very arduous. I have often seen M. Piorry himself much exhausted from the exertions he has undergone in this way, from visiting a single ward. But the learner undergoes still greater fatigue, from the numerous repetitions he is under the necessity of making before he is satisfied. The continual blows, also, on the tips of the fingers, (the nails being of course cut very short,) induce, at first, great pain and tenderness in them; and in my case, the skin surrounding the root of the nails became so greatly swollen and inflamed, that I was, for a time, obliged to suspend all practical examination. Indeed, those who amuse themselves occasionally by merely tapping or flipping the chest and abdomen, can form no idea of the pains and attention required to learn what may be termed the *real* art of percussion."

There is one thing which has often occurred to our own minds, as well as to those of other people, and it is this:—can such thumping and pummelling be really good for a *patient?* All our readers know that we were among the first to uphold auscultation and percussion in this country. But it is questionable whether some enthusiasts do not push it too far. The subject of it is usually one who can ill bear exposure, fatigue, or inconvenience. Yet who has not seen an out-and-out auscultator harass a poor wretch by a prolonged examination, generally useless and frequently injurious. In actual practice, and especially in private practice, a little extra nicety of diagnosis is bought, at such a price, too dear, and we believe that those who attempt it will not uncommonly find it so. It may be very gratifying to a physician to be able to draw a map of his patient's bowels, and we cannot but think that, in some instances at all events, the gratification will be heightened by the very procedure tending to afford an opportunity of verifying it.

The Hammer.—Dr. Bennett uses the plexor of Dr. Winterich, of Wurzburg. Considering that percussion is such very hard work, it must be owned that he is right. He employs an oval pleximeter. Its length is two inches, and breadth one inch. This pleximeter may be applied with great precision to every part of the chest, even in emaciated subjects. It may be made of ivory, wood, or metal. An inch-and-a-half scale drawn upon the surface, will be found use-

ful in measuring the exact extent of the dulness, and determining the differences which may occur in it from day to day.

The Gamut.—"M. Piorry considers that nine elementary sounds are thus formed, which he has designated, from the organ or part which originates them, '*femoral, jecoral, cardial, pulmonal, intestinal, stomacal, osteal, humorique*, and *hydatique*.' I consider that all these sounds may be reduced to three elementary ones: that, in point of fact, there are only three tones occasioned by percussion, and that all the others are intermediary. These three tones are respectively dependent, 1*st*, On the organ containing air; 2*nd*, On its containing fluid; and, 3*rd*, On its being formed of a dense uniform parenchymatous tissue throughout. These tones, therefore, may be termed the *tympanitic*, the *humoral*, and the *parenchymatous*. Percussion over the stomach gives the best example of the first kind of sound; over the distended bladder, of the second; and over the liver, of the third. The terms jecoral, cardial, pulmonal, intestinal, and stomacal, however, may be used to express those modifications of sound produced in percussing respectively the liver, heart, lungs, intestines, and stomach."

The Sense of Resistance.—A percussor has much to learn on this point. For, by the sense of resistance, is understood the peculiar sensation resulting from those impressions which are communicated to the fingers on striking hard, soft, or elastic bodies. It is of the greatest service in determining the physical condition of the organ percussed. The sense of resistance bears relation to the density of the object struck,—hence firm and solid textures offer more resistance than those which are soft or elastic. The sense of resistance should be as much educated by the physician as the sense of hearing, and it would be difficult for an individual, practised in the art of percussion, to say which of these two points is most valuable to him.

How to map out an Organ.—In percussing any particular organ, the plexi-meter should be first applied over its centre, where the sound and sense of resistance it may furnish, are most characteristic. Two blows with the hammer are generally sufficient to determine this. From the centre, the pleximeter should be moved gradually towards the periphery, or margin of the organ, and struck as it proceeds with the hammer, now forcibly, now lightly, until the characteristic sound of the next organ be elicited. The pleximeter is then gradually to be returned towards the organ under examination, until the difference of tone and sense of resistance become manifest. In this manner having first heard the two distinct sounds well characterised, we shall be better enabled to determine with accuracy, the limit between the one and the other. This may be done exactly after having determined, whereabouts the line of separation is, by placing the long diameter of the pleximeter transversely across it, and striking, first one end of the instrument, and then the other, till the precise spot is determined. This spot should now be marked, by placing with a pen a dot of ink on the skin. The opposite and then other portions of the margin of the organ should be limited in the same manner, and these in turn should be marked with dots of ink, until the whole organ be completely examined. Then by uniting all these dots with a line of ink, we have the exact form of the organ drawn upon the skin. When it is thought necessary to render the first mark permanent, in order to see if any subsequent change take place in the size of the organ, or extent of the dulness, it may be rendered so, by carrying lightly a stick of argent. nit. over the ink line, while it is still moist.

We should conceive that did he go to work in this way, a physician in good practice would find twenty-four hours short allowance, for the day. Surely such recommendations as these are the transcendentalism of practical medicine.

Far be it from us to disparage any attempt at nicety of diagnosis. But we repeat that it may be bought too dear. Patients, even hospital patients, in this country, cannot be treated as machines or dead bodies. It is otherwise in France. There, any favourite mode of exploration, however fatiguing, however disgusting, creates no check from the feelings of either patients or bye-standers, and the unhappy creature, who has been pummelled by a Piorry in the morning, may be exposed by a Lisfranc in the afternoon. More moderation is requisite in England.

MIDWIFERY IN CHINA.

Dr. Churchill has published, in the last number but one of our Dublin contemporary,* an interesting translation of a Chinese Treatise on Midwifery by Dr. Lockhart, who it appears, was sent into China a few years ago by the London Missionary Society, in hopes that medical science might prove a means of establishing a freer intercourse with the people of that country. We cannot say that this work inspires us with any very high idea of the state of obstetric science among our celestial *confrères*. We shall extract a few passages from it.

After some prefatory remarks, in which the author insists that this Treatise should, be in the hands of all classes, but more especially of the rich, who, he says, "are proud and will not listen to advice," we come at once to the subject of—

Parturition.

"Six characters comprise the whole business: sleep, bear the pains, slowly come to the tub."†

"It is of no consequence whether it be late or early (since the commencement of labour); but she must not go too soon to the tub or use efforts, and she must not listen to what some midwives say, that the head of the child presents externally, causing her to go at once to the tub, for this would mar the whole of a business, which is ever completed by nature alone. If at the proper time the fœtus be able to work itself out, what need is there for being hasty; because it is to be feared, that as the strength of the fœtus is but small, if, when it turns its body, this strength be exhausted, it is brought to the gate of life, but cannot work itself out. Still there is a time when it is proper to make a slight effort, and then one exertion will be sufficient to cause the fœtus to lose its place and descend. Thus at the set time the melon ripens and the tendril breaks. At this period the blood and breath are dissipated (partial recovery), the bones and joints of the body are loosened for a moment, a gush of water takes place, and without effort the child is born, and the mother herself does not know how it came about. Some say, that as we make an effort in passing an evacuation from the bowels, why not do the same in labour? But they do not consider that the fæces are mere dead matter, and therefore an effort is required, but the fœtus is able to turn itself, and the time that it does so must be waited for; not only is the use of effort needless, but it is absolutely injurious; for the fœtus sits upright in the womb till the time of birth, when it bends down its head and turns its body towards the contracted opening of the womb patiently, till it turns its body to the gate of life, the head being then below and the feet above, as though it were suspended upside down, it comes out at once. If the fœtus has not yet turned its body, and efforts be made to expel it, then the feet will come out first;

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* Dublin Journal, Jan. 1842.

† In China, when the strong bearing-down pains come on, the woman is supported in a half-reclining posture, and a tub or deep wooden platter placed so as to receive the child on its expulsion.

this is a strange occurrence, and an elegant name is given to it; viz. 'the foot-treading or water-lily birth.' If the turning of the body be not quite complete, and an effort of expulsion be made while the fœtus lies transversely in the womb, then a hand will come out first, and this is called the 'begging-salt birth.' Again, if the body be turning, and yet not quite straight, and efforts be made too early, the axis of the body being directed to the right or left, the hip or breech will present, but cannot come out; and all this arises from exertion being used before the proper time. All persons should be earnestly exhorted on no account to use improper efforts; at the same time efforts are not altogether to be discarded; but when used, it is only to be for the period occupied in drinking a cup of tea: above this all irregular exertion is to be avoided, for, as in the evacuations, if the fæces be not prepared, whatever efforts be made they will not come out, how much less in bringing forth a child. Some one may ask how is this swallow-of-tea time to be known, that efforts may be made? The time is certainly not always the same, if the fœtus be pressing downwards to the gate of life, then the bones and joints of the woman's body are relaxed, the chest bears down, the abdomen becomes distended or tense in a remarkable degree, the evacuations pass involuntarily, scintillations, as of golden flowers, are seen darting before the eyes, this is the precise moment, and if she be now brought to the tub, some efforts made, the mother and child will be separated; where lies the difficulty in this?"

The Chinese doctor appears to entertain a most holy horror of midwives. Generally speaking, he says, these people are stupid and ignorant, and not acquainted with the principles of things; immediately they enter the door, instead of inquiring, whether the stage be early or late, or whether the pregnancy be complete or not, they order the woman to sit on the grass and to make efforts, insisting that the child's head already presents, and they tell her to twist her loins; they rub her abdomen, or they introduce the hand into the vagina and endeavour to feel the child, this is highly injurious and hurtful, and arises altogether from a desire to appear to be doing something, unwilling to allow things to go on quietly. There is also another class of perverse women, who take advantage of this time to quarter themselves upon persons for the mere sake of gain. The evil of this is by no means slight. It is said, that between the Woo and Yue countries these women are called 'secure females,' between Keary and Hevery they are called 'receiving-to-life' females; between We and Ning they are called 'welcome life women.' Regarding the meaning of these two words, *welcome* and *receiving*, they are used because these old and experienced women are directed to receive the child as it comes down, and take it up and to put it on the bed, but they are on no account to pull it by the arms or legs.

Illustrative Cases.

The celestial author gives several cases in illustration of his style of treatment, which consists in trusting to nature. One of these is the following.

"Some time ago, Pofa, the secondary wife of Mr. Chang, who lived at Hosham, a woman of tender years, though fully formed, when she became pregnant, labour came on at the eighth month; she had severe pains for several days, and the child was born, but shortly died; she again became pregnant, was prematurely delivered, and the child died as before. I then said, that they must inform me when she was again in labour. The next year, at the eighth month, she was again in labour, which continued for three days, without success; when, suddenly recollecting my words, they sent off post-haste to call me: on the road I met the coachman, who said he was going to call her parents to take a final leave of her; when I arrived it was already night; on feeling her pulse I found it was not yet at the lowest ebb, and that she was still healthy. The midwife on being questioned about the affair, said that the child's head presented but could not come out. I ordered her to be put quickly to bed, and not to be dis-

turbed, giving her at the same time a little medicine to soothe the womb. The next morning her husband came to me laughing, but did not speak. I asked the state of matters, and he said all is well. Yesterday, said I, the child's head was at the gate of life, how is it now? He answered, it has disappeared, and with a loud laugh, went off. 120 days after this, that is *at the term of twelve months after conception*, she was delivered, and they said I was the child's father (ascribing the merit of saving its life to me,) and it is now eight years old. And now I come to know, that on former occasions, they had pulled out the child by force, and it was only because the woman was young and strong that she survived."

After-Treatment of Parturient Women.

"After labour let the woman be put to bed, let her have a high pillow to lean against, so that she may not lie flat down; the knees are to be raised and not to be stretched out; and let her immediately drink a cup of boy's urine warmed; she ought to shut her eyes, and be kept quiet; but she must not sleep soundly, for should she be very weary and sleep soundly the blood and heart will flow upwards and occasion dizziness of the head; she must not be spoken to in a loud tone or in a hurried manner, lest she be alarmed; she must be protected on all sides from the wind; she must not be asked whether she has pain or not; she must constantly use boy's urine mixed with warm wine in equal quantities, taking a cup at each time, so that in one day three or five cups are taken."

"Whether a boy or girl be born, is according to the husband's fate, for the sacrifices of a hundred generations depend on the husband's family; how can it result from the family of the wife? if daughters be successively born, this is a common occurrence, why should it cause distress and grief, and produce painful feelings? when we see a stupid husband taking offence against his wife and making himself ill, shortening his days, how very ridiculous and absurd this is; it is far better on all such occasions to be placid and liberal minded: there are even some who disown their daughters; those whose cruel hearts thus act contrary to the principles of reason must ever be haunted by future calamities. The after-treatment varies according to the custom of different places. In some parts they use red sugar, in others shon chachoo yu, an acrid plant, a drink made of pepper boiled in water; but there is nothing better than the hot wine and boy's urine; but should there be severe pain in the bowels, the use of sang hiva soup will be found very beneficial."

Boy's urine seems to be a very favourite remedy in China, the Doctor repeatedly insists upon its use. This, however, is not so bad as some of the prescriptions we meet with a little farther on; we should advise the adoption into the next edition of our Pharmacopœia of the following—

Remedy for Prolapsus Ani in Children in consequence of Dysentery.

"Take a little dry fæces, *you must not use such as are found in the roads, but they should be from unhealthy persons*, pulverize it carefully, and mix it with rice and water; two doses will effect a perfect cure."

The most extraordinary cure, however, is to come.

"In the eighteenth year of Kea King (1814,) Chow Ping Hang, the Han Hoe magistrate of Canton, a literary man, had an infant son, who, when he was a month old, became very much diseased in all parts of his body; the father seeing this, vowed to Heaven that he would print and publish forty copies of this Manual of Midwifery, and, *wonderful to relate*, the boy instantly became perfectly well, and enjoyed good health!!!"

Wonderful indeed!

OBSERVATIONS ON THE INCIPIENT STAGE OF CANCEROUS AFFECTIONS OF THE WOMB. By Dr. MONTGOMERY, Dublin.

[Dublin Journal.]

All observations on obstetric subjects from Dr. Montgomery are sure to command the attention of the profession, characterized as they always are by practical information and clear judgment. The disease in question is one of the most destructive, painful, and loathsome to which the female sex is liable. When confirmed, it defies all remedies, including the knife; but when early detected, our author thinks it may be often arrested in its course, and its victim rescued from a torturing death.

"I am satisfied, that there is a stage of cancer uteri which precedes the two usually described by authors; a stage, in which, the nature of the disease may be detected, its further progress arrested, and its germs destroyed, and the reason why this stage is not more generally recognized is, that the accompanying symptoms are frequently so slight as to attract very little the attention of the patient, and thus, are suffered to remain without treatment, until a profuse hæmorrhage, or some violent fit of pain sounds the alarm, and then, on examination, the disease is found to have passed into its second stage; the surrounding tissues are indurated and consolidated with the organ concerned, and no human means hitherto discovered can do more than blunt the thorns thickly strewn along the path, which the sufferer must tread, to 'the house appointed for all living.'"

Symptomatology.—Sharp, but fugitive and lancinating pains in back and loins—across the supra-pubic region or along the front of the thigh—sometimes in the direction of the sciatic nerve, producing numbness, or debility of the limb. In a large proportion of cases, there will be found a decided fulness, or even a distinct tumour in one or other iliac fossa, with fixed pain, tenderness on pressure about the inguinal ring—irritation of bladder—dysuria—sensation of piles about the rectum, &c. The menstruation is sometimes disturbed, often quite regular—occasional bursts of hæmorrhage—little or no leucorrhœa—unimpaired appetite (till the complaint has lasted some time)—disturbed sleep—flabbiness of flesh—pallor of countenance.

Examination.—Margin of os-uteri hard, and often slightly fissured, projecting more than natural into vagina, irregular in form. "In the situation of the muciparous glands, there are felt several small, hard, and distinctly defined projections, almost like grains of shot, or gravel, under the mucous membrane. Pressure on these, with the point of the finger, gives pain, and the patient often complains that it makes her stomach feel sick.

The cervix is, in most instances, slightly enlarged and harder than it ought to be. The circumference of the os-uteri, especially between the projecting glandulæ, feels turgid, and to the eye, presents a deep crimson colour, while the projecting points have sometimes a blueish hue."

This stage is very slow—being sometimes spread over years, before the second stage sets in.

Pathology.—Dr. M. is convinced that, in a great majority of cases, the first morbid change takes place in and around the muciparous glands which exist in such numbers in the cervix and margin of the os-uteri, which become indurated by the deposition of scirrhous matter around them. They feel at first like shot or gravel, and afterwards become unequal, bumpy, or knobbed, like the ends of one's fingers. This is the *second* stage of the disease, though usually described by writers as the *first*. It is irremediable.

Diagnosis.—The "IRRITABLE UTERUS" is the only complaint which can be confounded with the one under consideration. The *former* never produces organic changes—the *latter* does. The *former* is therefore unaccompanied by any enlargement of volume in the parts, which always accompanies or soon follows the disease now treated of.

Treatment.—Local leeching or cupping, with anodyne fomentations, form the first step in the treatment. Mercury, in some form or other, is almost indispensable, so as to bring the system very gently, but decidedly under its influence. It may be combined with very small doses of iodine, in conjunction with camphor, opium, hyoscyamus, or cicuta. "Afterwards, iodine or hydriodate of potash may be used both internally and externally; and iron will be found a most beneficial and powerful agent, especially in the form of the saccharine carbonate, or the carbonate given in the nascent state.

The iodide of iron, which combines, to a certain degree, the powers of both remedies, may also be used with advantage in most cases, and will be best administered in the form of Dupasquier's syrup, which is now prepared, of different strengths, by our chemists and apothecaries."

Our author has observed marked benefit result from the exhibition of arsenic in this dangerous complaint. Counter-irritation, the half-bath, injections of warm water into the vagina—and, when congestion is removed, and morbid sensibility only remains, anodynes added to the injections will be serviceable.

Every kind of irritation and excitation should be sedulously avoided, and the most mild and abstemious diet enjoined.

Although this is the stage in which amputation might be successful, yet our author does not recommend it, "because the operation is a very formidable one, and he knows the affection to be curable without it." This is a very substantial reason for eschewing the operation certainly.

We have thus condensed the valuable matter of this communication of Dr. M.'s, and have no doubt that it will prove acceptable to our readers. Some cases in illustration are added; but we are unable to comprehend them in this brief article. They are highly deserving of perusal by the medical practitioner.

CASE OF ACCIDENTAL POISONING BY ARSENIURETTED HYDROGEN. By Dr. O'REILLY, of the King's and Queen's College of Physicians, &c.

[Dublin Journal.]

It is but very rarely that death is produced by this mode of taking arsenic, though the material itself is one of the most deadly forms of the mineral. There are but few records of poisoning by the inhalation of arseniuretted hydrogen—one was in the person of Gehlen, the chemist, and the other that of Mr. Beard, a young British lecturer on Chemistry.

On the 23d October, 1841, Mr. Brittain, a druggist and chemist, aged 31, inhaled, at two different periods, about 150 cubic inches of impure hydrogen gas, believing that, if pure, it would not be injurious. But, immediately after the second inhalation, he was seized with giddiness and faintness, followed by shivering and an evacuation from the bowels, and two ounces of blood from the urethra, without pain. These were followed by pain in the lower extremities, and numbness of the superior, with tingling sensation. These phenomena continued for two hours, when they subsided, and Mr. B. was seized with pain in the loins, vomiting, &c, which continued some hours. When Dr. O'Reilly arrived, there was nothing remarkable in the patient's appearance. He complained of great weakness—bitter taste in the mouth—pulse 90, and feeble—surface cool—voice very low—dull pain in the epigastrium. A draught of am-

monia and laudanum was prescribed, to be repeated every three hours, with pediluvium and emollient injections. At ten o'clock the same night, eight leeches to the epigastrium. Four drops of the black drop, with three grains of hyd. cum creta, every two hours.

24th. Vomiting continued through the night—bowels cleared by the enema—no urine—face of a copper colour—body of a greenish hue—pulse 80 and strong—still some tenderness at epigastrium—troublesome hiccup. The same remedies, with diluent drinks.

On the 26th we find the jaundice disappearing—the bowels freely evacuated—discharges loaded with bile—no urine—still some vomiting. Salines with carbonic acid—chicken broth—wine and water. 27th. Still no urine. The jaundice has disappeared—no fever—no pain—bowels open—face rather œdematous—ammoniacal odour on the breath—somnolency. The hip-bath prescribed—diluents—nitre and nitrous ether, &c. 28th. Deep irregular ulcer on the tongue—breath ammoniacal—no urine in bladder when catheter was introduced. Symptoms got rather worse, and he died on the evening of the 29th.

Dissection, 36 hours after death.—"Universal anasarca; integuments of the abdomen of a slight greenish colour, particularly at the sides; abdomen greatly distended with gas; on opening the chest, we found the lungs completely collapsed, natural in structure, but containing little air; a fluid, to the amount of two pints, of a reddish-brown colour, without odour, was effused into the chest; heart, pale and flabby, not containing blood, nor changed in structure; a little fluid in the pericardium.

Abdomen.—Liver of a deep indigo colour, not increased in size; the gall-bladder distended with bile; the kidneys of a deep indigo colour all through, the left particularly large, the internal structure resembling much the spleen in appearance; the right smaller and firmer; the stomach empty; two distinct patches of inflammation were observable in the greater curvature; the mucous membrane easily separated; the bladder empty and natural.

Head.—The dura mater healthy; arachnoid somewhat vascular, containing air bubbles underneath; the substance of the brain bloodless; no fluid in the ventricles."

We cannot follow Dr. O'Reilly through the course of his manipulations; it is sufficient to say that arsenic was unequivocally detected. But which of the ingredients?—the zinc or the sulphuric acid? Six specimens of the latter, obtained from different sources, were subjected to trials, and "all were found to contain large quantities of arsenic."

For various observations and reflections, curious, scientific, and useful, we must refer to the original paper in our respected contemporary.

CASES ILLUSTRATIVE OF DISEASE SEATED IN THE CEREBELLUM.

By W. JACKSON, Esq.

[Provincial Journal, Dec. 1841.]

Case 1.—Mr. R. æt. 25, married. Came under the care of Mr. Jackson, 20th August, 1830. About twelve months before this he became subject to paroxysms of severe pain in the head, which was at first confined to the upper and anterior part, but for the last four months had become fixed (during the fits) in the upper and back part of the head and neck, shooting forwards to the forehead, the face was flushed, and the head steadily inclined forwards. The attack was often occasioned by rising from bed in the morning, and usually lasted for two or three hours. The pain was of the most agonizing kind, and was described as if something were darting downwards along the spine. When lying in bed, and frequently when in a sitting posture, Mr. R. would fancy himself

falling down, not only during the paroxysm, but also during its absence. The pulse was generally unaffected during the intervals, but varied considerably at other times, being sometimes rapid and almost imperceptible, and again slow, being once reduced as low as 40. The exciting cause of a fit appeared, on many occasions, to be muscular action succeeding to a state of rest; the proximate, the consequent determination of blood to the seat of the disease; but any violent mental emotion would occasion an attack. At one period the attacks were accompanied by a copious discharge of flatus from the stomach, with decided relief, and when the attack was more severe than usual, vomiting often supervened. The paroxysms, which usually ceased suddenly, were generally followed by perfect ease. Several of these attacks would frequently occur during the night, and in the intervals more or less sound sleep be obtained. As the disease advanced, vision became considerably impaired; the other senses, however, remained perfect to the last. His general health was unaffected, excepting that the stomach became sometimes deranged in its action.

From the general character of the attacks, Mr. Jackson, as also Dr. Knight, who attended with him, were inclined to regard the case as of a mixed nature, presenting many of the features of a nervous or hysterical affection, but also leading to the suspicion that serious disease existed within the cranium.

The treatment adopted consisted, at first, under the supposition of its being more or less inflammatory in its nature, of local bleedings, counter-irritation, and rest. Afterwards, perceiving that as debility increased the symptoms became aggravated, tonics, improved diet, wine, change of air, and the shower-bath, were ordered with much benefit. Under this treatment his strength improved, and the attacks became much less frequent and less severe: on the 13th of October, however, after a journey to Leeds, a severe and unexpected attack came on, gradually increasing till a state of partial insensibility supervened, and, seemingly exhausted, he sank in two hours, without suffering any spasmodic movement.

Post-mortem Appearances.—The veins of the pia mater were turgid with blood. The substance of the brain likewise was more vascular than usual. The ventricles were distended with a clear fluid. Several parts in the interior and at the base of the brain were softened, especially the fornix, tractus opticus, hyppocampi, and tubercula quadrigemina. The right pes hyppocampi was enlarged, and in its interior was found a tumour of the size of a large pea, of a whitish grey colour externally, and presenting a similar appearance internally. The cerebellum was softened, and in the centre of its left lobe was found a globular tumour, of firm consistence, one inch and a half in diameter. The general aspect of this tumour resembled those found in scrofulous subjects. The effusion into the ventricles had occurred, no doubt, during the last attack.

Case 2.—George Beighton, æt. 44, married, applied to Mr. Jackson, May 17th, 1841, having been ill then for one month. He complained of constant vertigo, which continued throughout his disease; he was unable to walk except in a very unsteady manner; and suffered from severe pain referred principally to the back part of the head; pulse 90, full; tongue white. He was ordered to be bled and purged, and a blister was applied to the back of the neck, without relief. In a few days severe vomiting came on, which continued throughout his illness; the pain in the head became more urgent, returning in distinct paroxysms, which would be occasioned by the slightest movement of the body, to prevent which, he constantly kept his hands fixed firmly upon his head, which was brought forward upon the chest. He carefully kept his eyes closed. The intellectual powers were not at all impaired; nor was the strength materially affected. The patient frequently expressed a feeling as if he were on the point of falling from a considerable height. These paroxysms of pain became more and more severe, in spite of all the remedies employed, till at last the patient,

apparently worn out by the severity of his sufferings, and conscious to the last, sunk on the 5th of June.

Post-mortem Appearances.—At the point where the occipital bone joined the parietal, the dura mater adhered firmly to the arachnoid. The ventricles were filled with fluid. The cerebrum generally was natural, and of its usual firmness. The cerebellum externally presented increased vascularity; its right lobe was healthy throughout. The left lobe however was softened, and appeared in a disorganized state; on cutting into it, it was found that nearly the whole of this lobe was the seat of a cavity filled with a sero-gelatinous fluid. There was no lining membrane, but the sides of the cavity, consisting of the substance of the cerebellum, were quite softened.

This case presented the appearance of an acute disease, while the former exhibited an example of the more chronic form.

Case 3.—J. G., æt. 68, was suddenly seized in the Spring of 1838, with extreme vertigo, temporary insensibility, and extreme coldness of the whole body; pulse slow and labouring, afterwards feeble. He continued in an apparently exhausted state for two or three hours, vomiting occasionally. The symptoms which remained two days after the attack, were extreme vertigo, pain in the occipital region, and considerable unsteadiness in his muscular movements, so as to resemble, in walking, a person who is slightly intoxicated. He retained perfect possession of his intellectual powers, and, beyond this unsteadiness, there was no paralysis. He was cupped and repeatedly blistered; kept on low diet; and advised to remain at rest for some time. His restoration was partial, and very gradual from the first seizure to the period of the second attack.

Between two and three months after this he was seized, shortly after a hearty dinner, with sickness and vertigo, and shortly afterwards became nearly insensible, his extremities being extremely cold; warmth having been restored, he was bled to eighteen ounces, and a large dose of calomel administered. On this occasion, the most remarkable symptom present was, the perfectly unsteady and unmanageable state of the muscular powers. In six hours' time, he became insensible, and expired soon afterwards.

Post-mortem Appearances.—The cerebrum was generally in a healthy state, excepting that the ventricles were somewhat distended with serum. The branches of the basillary artery were thickened, opaque, or whitish-brown; their coats were easily broken down, and felt as if they contained a quantity of coarsely powdered chalk. The interior of each lobe of the cerebellum contained several dark coagula of blood—one, especially, surrounded by a cyst, as if of older date. Around those coagula the structure of the cerebellum was in a completely softened state, as, indeed, was more or less the whole substance of that organ.

Remarks.—The functions of the cerebellum are as yet but very imperfectly understood; these cases, however, as far as they go, are certainly much in favour of the views of M. Fleurens—that the cerebellum gives to the muscular system a general harmony of action, and a precision of purpose; and that an impairment of its function is attended by agitation, unsteadiness, and irregularity of muscular action.

Is the cerebellum in any way connected with sensibility? Mr. Jackson is inclined, from these cases, (especially the second,) to answer in the affirmative. The difficulty consists in distinguishing the effects produced by the disease in the cerebellum, from those arising from the affection of the contiguous structures, more especially the membranes.

It is highly probable that pathology will, in time, do more to explain the real nature of the functions of the cerebellum than experimental physiology, which is liable to two great objections, viz. the great shock produced by the operation, and necessity of involving other structures.

CASE OF CLOSURE OF THE OS-UTERI, WHICH REQUIRED AN OPERATION By T. R. PUGH, Esq. Salem.*

Mrs. ——— came under the care of Mr. Pugh on the 10th of June, 1840, apparently suffering from an attack of dysmenorrhœa. It appeared however that she had not menstruated for two years, and that there had been no discharge of any kind from the uterus, since she had her last child, which was about two years before. The usual remedies for dysmenorrhœa were tried without effect; and as there seemed to be much enlargement about the abdomen, and her symptoms became alarming, Mr. Pugh determined on puncturing the uterus, which was performed on the 22d of June, in the following manner: a middle-sized scalpel, wrapped in fine calico, was introduced upon the index finger of the right hand to the indentation left by the closure of the os-tincæ, and the point was then gently forced through the coats of the organ, about two pints of fluid immediately escaped, and this was attended with considerable relief; in the course of the next twelve hours, two pints more flowed away. A gum catheter was then introduced, which remained in until the wound was healed and the orifice formed. She recovered her health rapidly, and has continued well except a mild attack of leucorrhœa. Menstruation has been quite regular ever since.

It seems that immediately after the delivery of her last child, she was attacked with inflammation of the neck of the womb; the lochia never appeared. During the two years that she remained ill she always suffered from severe pain at the time of her monthly period, and occasionally had vicarious discharges from the anus or lungs.

CASE OF ANEURISM OF THE ARCH OF THE AORTA, PRESSING UPON THE LEFT BRONCHUS, &c. By ROBERT SPITTAL, M. D.†

The subject of the following observations, a gentleman of the legal profession, æt. 47, unmarried, and somewhat irregular in his habits, had for several winters suffered from bronchitis. On the 18th of October, 1840, he again came under the care of Dr. Spittal. On examining the thorax, a rounded tumour, measuring between two and three inches in diameter, and of an elevation of about half an inch, was observed a little above the centre of the sternum, in the mesial line. The sternum was distinctly perceptible over the tumour, and continued to be so till the death of the patient; the integuments, at first of a normal appearance, subsequently became reddened, presenting very much the appearance of the skin over an abscess.

There was a considerable heaving impulse in and around the tumour, the sound on percussion over it was dull, as was also the case to the left, over nearly the internal two-thirds of the clavicle; the dullness extended down below the second rib of this side. The respiratory murmur was absent, where the percussion was dull: but distinctly audible over the rest of the chest. At this time there was frequent cough, with yellowish tenacious expectoration, especially troublesome at bed-time, and accompanied with slight acceleration of the breathing, which occasioned much annoyance to the patient.

These symptoms continued much the same, with the exception of the catarrh becoming more severe, until the latter end of November, when, after exposure to cold in the open air, the right lung also became affected with bronchitis. On the 26th of this month, he was found by Dr. Spittal labouring under very

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* The Maryland Medical and Surgical Journal.

† London and Edinburgh Monthly Journal of Medical Science. Jan. 1842.

considerable aggravation of all his symptoms. The pulse was 120, of increased strength—skin hot and dry—respirations 40 in the minute—catarrhal râles, chiefly mucous, increased in the right lung, while scarcely any respiratory murmur was perceptible over the left, and then only on coughing or on forcible inspiration. Œdema of the feet and ankles, with lividity of the face, and slight apparent protrusion of the eyes, now appeared and the patient became unable to maintain the horizontal position, except for a short period.

After the exhibition of antimonials, and the free application of blisters, slight relief was obtained. On the 30th, however, the dyspnœa increased—pulse became more rapid and feeble in spite of stimulants—face and upper part of the trunk slightly livid—increase of œdema of lower extremities, and he gradually sank and died early on the morning of December 1st, 1840.

The sounds perceived in the region of the tumour were similar to those in the præcordial region—which were normal—except on one or two occasions during the earlier part of the attack, when a short and sharp murmur was heard, synchronous with the first sound of the heart. The patient thought he observed the commencement of the tumour about half a year before Dr. Spittal's attention was directed to it. He likewise stated that, about two years before this, he had an acute "cutting" pain under the sternum, but had had little or none since.

The treatment, apart from that applicable to the acute pulmonary attacks, was directed to alleviate the symptoms arising from the aneurism, and to hinder as much as possible its increase. With this view of the ordinary means of rest, both mental and physical, were enjoined; with at the same time absence from all unusual stimuli: and a very moderate diet was ordered.

Sectio Cadaveris, 36 *hours after death*—On opening the thorax, a large sacculated aneurism was found to arise from the anterior and a little to the left side of the aorta, about an inch above the semilunar valves, involving likewise the whole of the lower and anterior part of the arch, which was very much dilated. The aneurism extended from the upper part of the sternum to about the level of the cartilage of the third rib; the sac was firmly adherent to the edge of the sternum throughout the whole length and breadth of the part described, the latter having served as part of the anterior parietes of the tumour. At several places the bone was quite exposed internally, at some hollowed out and quite diaphonous, especially at the upper and left side, near the sterno-clavicular articulation.

The interior of the tumour was quite irregular from rounded elevations, the normal structure of the artery becoming obscured or lost immediately at the commencement of the dilatation. The great vessels arising from the dilated arch were all pervious, but at their origin were somewhat thickened and of a reddish colour. About one-third of the sac was occupied by numerous layers of fibrine of a pale ash-colour.

The right lung had its air-tubes loaded with thin and frothy mucus, and was slightly emphysematous. The left lung presented the various stages of pneumonia. Immediately below the bifurcation of the trachea, five of the cartilaginous segments of the left bronchus were more or less completely exposed and were somewhat flattened.

Remarks.—From the first there could be no doubt as to the nature of the disease, which probably commenced at the period when the "cutting" pain was first felt. although no tumour showed itself externally till about six weeks before his death; its progress internally, where alone it extended, was clearly manifested in the occurrence of pressure on the neighbouring parts, and it seems evident that, had the patient lived, the aneurism would have burst into the left bronchus. As it was, the patient sank under the combined effects of obstruction to the respiration and circulation, as the aneurism must, from its position during life, have pressed upon the vena innominata and left jugular, on the de-

scending vena cava for some extent, and on the left pulmonary veins, together with the effects consequent on the morbid state of the lungs described.

Perhaps the most interesting point is the impediment which the mechanical obstruction of all respiration in the left lung placed in the way of the ordinary means of diagnosis, denying us altogether the aid of any indications of a respiratory or vocal character, and limiting us to those afforded by percussion and the general indications. The total absence also of the characteristic sputa, formed an additional bar to the diagnosis of the inflammatory condition of the left lung.

PARAPLEGIA.—ABSTRACT OF A PAPER READ BEFORE THE ST. GEORGE'S HOSPITAL MEDICAL AND SURGICAL SOCIETY. By ATHOL JOHNSON.

The subject of the present paper is paraplegia, or palsy of both sides of the body, generally affecting only the lower extremities, in contra-distinction to hemiplegia or palsy of only one side; and I have selected it as being a disease still but imperfectly understood, and therefore the contribution of any new facts may perhaps be attended with some advantage. Dr. Baillie, in a paper on the subject published many years ago, observed, that he thought the disease had increased in frequency within the few previous years. I know not whether this be true or not, but certainly, within my very limited experience, I have had an opportunity of seeing at least fifteen or twenty cases, and have assisted or been present at the post-mortem examination of seven or eight.

Paraplegia is, of course, not a disease in itself, but merely a symptom of some morbid affection occurring in some other part of the body, and which is usually chronic in its nature.

These morbid affections or causes may be classed under the following heads:—

1st. It may arise from disease of the vertebræ, especially caries.

2d. From injury of the vertebræ or spinal cord.

3d. From other causes.

Of the first two I shall not speak at all here, as they are well understood, and of frequent occurrence.

Of the "other causes," two great divisions may be made, namely, those which are *functional*, and those which are *organic*.

That paraplegia may be functional, is proved by the action of certain poisons upon the body, such as the Wourara poison: when this is administered to a dog, the animal first loses sensibility, then the hind-legs become powerless, afterwards the fore-legs, and finally the ears. As the effects of the poison begin to wear off, the dog first regains power over the ears, then over the fore-legs, but the hind-legs remain paralyzed for some time after;—in fact, the animal is paraplegic. At last this also disappears, and the dog is perfectly restored.

The *functional causes* may be farther subdivided as follows:

1. Over-excitement of the nervous system, as in the case of professional persons, or those obliged to use great mental exertion.
2. Inflammation of the membranes of the spinal cord.
3. A peculiar state of the general system, existing usually in young females of a chlorotic habit, or what has been termed "hysterical paraplegia."
4. Great demands upon the nervous system; as excessive venery, indulgence to a great extent in ardent spirits, &c.

The first of these, though not met with in hospital practice, is, I understand, not very uncommon among literary persons, especially lawyers: its inorganic nature is proved by the speedy cure effected by rest, abstinence from mental exertion, and change of air.

A case of paraplegia produced by inflammation of the membranes of the cord, is mentioned by Sir B. Brodie; the patient died, and the membranes were found inflamed.

Cases of the third form, or "hysterical paraplegia," may be seen every day in the wards of this hospital. It is generally cured without much difficulty, by medicines which improve the general health, and by taking care to withdraw the attention of the patient from the part.

Paraplegia induced by great debauchery, though at first merely functional, and susceptible of cure when early attended to, if neglected soon becomes incurable, and organic change takes place; this change will probably be of the nature of ramollissement. I may here mention the post-mortem examination of a man who had formerly laboured under this form of disease.

A public-house keeper, of the name of Cutler, who had always been in the habit of drinking very freely, came under the care of Dr. Seymour about the year 1 3 , for paraplegia. He was cured—but some months afterwards he again came into this hospital for diseased heart and dropsy, of which he died. On opening the body, besides the disease in the chest, the brain was found to be soft and watery, there was some fluid in the ventricles, and a considerable quantity between the membranes, and in the theca vertibralis. Is it not highly probable that the paralysis was produced by the same state of the nervous system, only in a higher degree?

So far I have followed the arrangement adopted by Sir Benjamin Brodie, in a lecture on paraplegia delivered by him in the early part of last year, in this hospital. I must, however, presume to make some alteration in the organic causes.

Organic Causes.

1st.—Effusion of fluid into the theca vertebralis.
2d.—Disease of the spinal cord, or its membranes, as ramollissement, tumours, &c.
3rd.—Disease in the encephalon.
4th.—Disease of the brain and spinal cord.

1st. *Effusion into the Theca.*—Very often no reason can be assigned for the presence of this fluid. Occasionally, however, the cause can be traced, as for instance, in cases of carcinoma of the vertebræ, not producing paraplegia in itself, but irritating the membrane with which it is in contact, causing this to pour out fluid and so producing pressure on the spinal cord. Dr. Baillie supposes that it may sometimes happen that if there is any effusion of serum between the membranes of the brain, which is of very common occurrence, a portion of the serum may fall into the cavity of the theca, and press upon the lower portion of the spinal marrow.

2nd *Disease of the Spinal Cord.*—As an example of paraplegia arising from this cause, I shall mention the case of a man of the name of Walshe, who was in this hospital in the latter part of the year 1840. Six weeks before his admission, he first perceived that the power over his hands and arms was considerably impaired; and about a fortnight afterwards, the lower extremities became affected, but not to so great a degree. On examining him in the hospital, it was found that he was unable to raise his arms more than about a foot from his body; he was also incapable of holding anything in his hand. He was still able to stand; but had some difficulty in walking across the ward. Sensation was but very slightly affected. There was no disease apparent in the vertebræ; no head symptoms. After remaining here for some time, he had an attack of erysipelas which proved fatal.

In the examination after death, the spinal marrow corresponding to the space occupied by the third and fourth cervical vertebræ, was found to be very much softened, and in a semi-fluid state. The rest of the cord was healthy. The brain as rather watery, the ventricles distended with fluid.

3d. *Disease in the Brain.*—It is only of late years, I believe, that paraplegia

has ever been referred to this cause; and many medical men still refuse to acknowledge it. In the early part of 1815, Mr. Earle published a report of a case of paraplegia in which, on examination after death, the spine was found to be perfectly healthy. In the sixth volume of the Transactions of the College of Physicians, will be found a very interesting paper on this subject by Dr. Baillie. In this, he states that, "in adults, where the spinal column has not been injured, paraplegia depends most commonly upon a disease affecting the brain itself." Dr. Baillie mentions, however, in support of this opinion, but one case, in which the pia mater was much congested, and there was considerable effusion between the membranes, and in the ventricles, the substance of the cerebellum moreover was considerably softer than natural.

This conclusion of Dr. Baillie's is probably too general, as certainly many cases of this affection arise from disease in the spinal cord alone, but at the same time it has done much good by directing the attention of practitioners in these cases not only to the spine but also to the head, the seat in very many instances of the disease.

I shall here quote, in an abbreviated form, from the valuable paper by Mr. Earle upon this subject, published in the 13th vol. of the Medico-Chirurgical Transactions, some remarks on the differences exhibited in the symptoms of paraplegia as arising from these two causes.

Paraplegia from disease in the brain, generally occurs at the middle or more advanced period of life than is usual in diseases of the bodies of the vertebræ, or of the fibro-cartilages. Its progress is more rapid, and the affection is more general, the upper as well as the lower extremities being frequently affected. The disease is more frequent in men than in women. The gait of persons labouring under cerebral affection is peculiar, and very different from that attendant on spinal disease. It nearly resembles the walk of a drunkard; they are unable to walk in a straight line, the limbs are loose, there is a great consciousness of weakness, and much difficulty in turning round. The appearance of the eyes is very similar to those of a drunkard. This analogy is readily understood when we consider that it is the temporary disturbance of the brain from the congestion of its blood-vessels, that deprives the drunkard of the power of directing his steps, and for the time induces a state bearing the closest resemblance to paraplegia.

Sensation is more impaired than in spinal diseases, the patient appearing to feel through a false medium; the limbs are more wasted and flabby, and without that spasmodic rigidity of the muscles so common in affections of the spine. There is generally less gastric disturbance. In some instances there is the additional confirmation of an impaired state of some of the external senses, accompanied with vertigo, a sense of weight on the head, and general disturbance of the cerebral functions.

Mr. Earle quotes four cases in illustration; in the first, on examination, the vessels of the dura and pia mater were very turgid; the ventricles contained about five ounces of limpid fluid. The pons varolii and optic nerves were covered with yellowish lymph. The whole pia mater was studded with small turbercles like millet seeds; these were particularly abundant on the middle lobe and basis of the brain. The upper portion of the cord was perfectly healthy; the lower was not examined. In the second, there was much gelatinous deposit at the base of the cranium between the layers of the arachnoid; the cellular tissue of the pia mater was loaded with fluid. Three scrofulous tubercles were found in the cerebrum, and one in the cerebellum, which had suppurated; the surrounding medullary matter was soft and pulpy. The cancellous structure of the bodies of the vertebræ was filled with cheesy deposit, but no perceptible change had taken place in the spinal marrow and its membranes.

In the two remaining cases, the symptoms clearly pointed to the brain as the seat of the disease, but no opportunity was afforded of ascertaining the fact.

The cases which I shall bring forward are these :—1st. Edward Gee, æt. 38, admitted in the early part of 1841, with partial paralysis of the lower extremities, rendering his gait very unsteady, sensation but slightly impaired; had been subject to fits, preceded by giddiness and pain in the head for six months previously. Had been in the habit of drinking freely. In the course of a short time the paralysis of the lower extremities became more and more complete, till at last he was unable to quit his bed. There was great tendency to coma, and his memory became much impaired. Urine and fæces passed involuntarily. The sight became affected, the eyes appeared dull and protruding. On examination after death, the cerebrum was healthy, there was a small quantity of fluid in the ventricles. The cerebellum contained a large tumour about the size of a walnut, replacing the cerebellar structure of the anterior portion of the left lobe. The tumour was hard, homogeneous in its texture, and contained no vessels. The capsule was in part formed by the tentorium cerebelli, the rest being connected with the structure of the cerebellum by loose cellular tissue. It did not appear to press on the peduncles of the cerebellum. The pineal gland was enlarged with similar tubercular deposit. The spinal cord was perfectly healthy.

Case 2nd.—Anne Jackson, æt. 66, admitted for giddiness and pain at the back part of the head. She was unable to walk steadily, frequently falling down in attempting to cross the ward. Sensation not much impaired. A few days after admission she was attacked with fever, of which she died. On examination, the cerebrum was found to be vascular, but otherwise healthy; the ventricles contained a considerable quantity of fluid. On removing the tentorium cerebelli, a large tumour of about the size of an egg, was found attached to its under surface by a narrow pedicle. The tumour pressed upon and occupied the place of a large portion of the right lobe, which was considerably softened. The structure of the tumour appeared to be of a medullary character.

I have also seen two other cases of this affection, in both of which the cerebellum was the seat of the disease: in one, a lady, in whom the symptoms were peculiarly distressing, both lower and upper extremities becoming gradually paralyzed, and the sight completely lost, in which state she remained for many months; a large tumour of a malignant character was found imbedded in the right lobe of the cerebellum. In the other, where the more prominent symptoms consisted in violent and excruciating pain in the head, and convulsive paroxysms, a large serous cyst was found in the structure of the cerebellum. As, however, in these cases the spine was not examined, I shall not dwell upon them, the cases I have already mentioned, justifying me, in my opinion, in ranking disease in the brain as a cause of paraplegia.

The next cause I have put down, is, disease of the brain and spinal cord; of this I shall give one example.

Case.—Thomas Murphy, æt. 54, admitted with paralysis of the lower extremities of a week's duration, the left leg being attacked first. The spinal column appeared perfectly healthy. There had been no fits nor any affection of the external senses. He rapidly got worse, there was perfect palsy of the lower extremities, and entire loss of sensation from a little below the margin of the false ribs downwards. The legs were drawn up, the recti muscles of the abdomen tense and unyielding. Incontinence of urine and fæces; severe sloughing of the back. In a month he died.

On examination, some fluid was found effused at the lower part of the theca; a scrofulous tubercle of about the size of a pea, was found in the centre of the cord about opposite the sixth dorsal vertebra. The cerebrum was soft and watery, there was a considerable quantity of fluid between the membranes and in the ventricles. In the left lobe of the cerebellum, near the base, three scrofulous tumours, of a somewhat larger size than that in the spinal cord, were discovered; *the* scrofulous matter was in a hardened state.

I shall next briefly mention two curious and interesting cases, on the nature of which dissection could throw no light, and which, therefore, I am unwilling to class under the heads of either functional or organic, as some change might have taken place in the delicate nervous structure which the eye could not detect.

1st. Anne Cook, æt. 21, admitted with palsy of the lower extremities, sensation impaired but not altogether lost, double vision occasionally; incontinence of urine, but not of fæces. Sloughing of the back rapidly came on, but which, by the greatest care, was prevented from extending. Under the remedies employed she improved gradually for some time, becoming able to retain her urine and fæces, and to move the legs slightly when in a recumbent posture, the double vision still continued, though in a less degree. Suddenly, however, the back and hips began again to slough, the legs were drawn up convulsively close to the abdomen, vision became affected to a much greater degree, and there was violent pain in the head; she died at last worn out by the profuse discharge from the back. On examination after death, the substance of the cerebrum was firm and natural, it was perhaps rather wet when cut into. But little fluid in the ventricles. Substance of the anterior part of the middle lobe of the left hemisphere slightly softer than other parts; the cineritious substance was here of a pale colour. The cerebellum, pons varolii, crura cerebri, and optic nerves were apparently healthy. A small quantity of fluid was effused externally to the dura mater in the spinal canal, and a very small quantity within the theca. Cord quite healthy.

Case 2nd.—Thomas Bailey, æt. 39, admitted with paralysis of the lower extremities; motion is not entirely lost but greatly impaired, sensation entirely lost at the soles of the feet, becoming less affected as you passed up the legs. Urine and fæces passed involuntarily. States that the attack commenced three weeks ago with numbness of the feet, and dullness of vision in the right eye; at present vision is perfect, and the pupils act naturally. Sloughs on the back. Soon after admission a cough, with muco-purulent expectoration mixed with blood, came on. In six weeks he died.

Sectio Cadaveris.—The body was much emaciated. Large and extensive sloughs over both hips and sacrum. There was a small quantity of fluid in the upper part of the theca, which had apparently dripped down from between the membranes of the brain. Spinal cord apparently healthy, a slight alteration of colour and consistence, was thought to be observed about opposite the first lumbar vertebra, the change however, if any existed, was very slight. The sinuses of the brain contained a considerable quantity of dark blood. Some fluid in the ventricles. Structure of the cerebrum and cerebellum apparently healthy.

Having already, I am afraid, exceeded the time allotted by this Society for reading papers, I will now conclude, by recapitulating in a tabular form, the various sources of paraplegia as mentioned in the preceding part of the paper.

Paraplegia, then, may arise:

1st.—From disease of the vertebræ.

2nd.—From injury of the vertebræ or cord.

3rd.—From other causes.

1. *Functional.*
   - A. Over-excitement of the nervous system.
   - B. Inflammation of the membranes.
   - C. A peculiar state of nervous system, constituting one of the forms of hysteria.
   - D. Great draughts upon the nervous system, as from excessive venery.

2. *Organic.*
   - A. Effusion of fluid into the theca vertebralis.

B. Disease of the spinal cord, or its membranes.
C. Disease in the encephalon.
D. Disease of the brain and spinal cord.

3. Cause not to be discovered by dissection.

MOVEABLE CALCULUS, THE SIZE OF A PISTOL-BULLET, TRAVERSING THE TRACHEA AND BRONCHIA.

A very curious case of this kind occurred in the practice of Mr. Ewart, Surgeon, of Alston, the particulars of which are as follow:—A young man, 29 years of age, had followed the occupation of a miner for eleven years, during the first nine of which, he enjoyed as good health as miners, of his standing, generally do. They are almost all affected with shortness of breath and mucous expectoration loaded with dust. About two years ago this man became affected with more decided fits of dyspnœa, attended sometimes with pain in the left side of the chest. These symptoms gradually increased in severity, especially the pain, which he assigned to a spot apparently corresponding to that part of the left bronchus situated below the arch of the aorta. This pain was aggravated by lying on the left side, or bending the body to the left. He had also fits of palpitation, and a sense of imminent suffocation, produced, as he alleged, by something rising in the lower part of the trachea, and obstructing the entrance of the air into the lungs. He continued, however, to follow his employment till the Summer of 1841, when he was seized with acute rheumatism, the thoracic symptoms still continuing unmitigated. The rheumatic fever was subdued by the usual means, after which the stethoscope detected consolidation of the upper portion of the left lung. In the beginning of October last, he was induced, one evening, to take an emetic, which operated severely. Next morning he was seized with a violent fit of coughing, which continued, until he brought up, with suffocating effort, a round ball through the rima glottidis. On examination, it was found to be a globular ball of stone, the size of a pistol-bullet, enclosed in a kind of membranous investment of inspissated mucus. It was found, when sawn into, to be composed principally of sand, and is of very compact texture.

The probability is that this stone was gradually formed by the progressive agglutination of sandy particles, while the man was, during five years, mining in a stratum of similar composition to that ejected from the lungs, and breathing an air containing silicious dust, and stagnant at the same time.

After the expulsion of the stone, the man was no longer troubled with palpitation, dyspnœa, or inability to lie on the left side. He felt a soreness, however, in that side, and a sensation which he could not well describe, in the spot originally alluded to. For a short time, his health was much improved. But latterly he is evidently declining, from tuberculous deposits in the lungs, to which he is hereditarily predisposed, and there is no doubt but that he is in an early stage of phthisis.

The stone has been forwarded to the Editors.

CASE OF ABSCESS BEHIND THE MAMMA.
By Mr. HENRY JAMES JOHNSON.

The Junior Editor of this Journal related this case to the Westminster Medical Society. It has been reported in the weekly Journals from which we extract it.

A woman, residing in Rupert Street, Haymarket, applied to Mr. Johnson, with a painful affection of the left mamma, which she supposed was cancer; several surgeons had seen it, and had told her that it was a tumour of the breast, which would eventually assume a serious aspect. She was emaciated, and otherwise in a very ill state of health, and just in that peculiar condition in which scirrhous disease might be supposed likely to occur. The menstrual discharges were regular, and she had been a mother some few months previous to seeing Mr. Johnson. On examining the breast more accurately, it was found to be slightly enlarged, hard, and nodulated; manipulation gave but little pain, but she complained of occasional lancinating pains shooting through the gland, somewhat resembling those which accompany the progress of scirrhus. There was no retraction of the nipple. There was an obscure sense of fluctuation, but whatever the fluid might be, it was very deep-seated. Leeches were ordered to be applied, and some medicines were taken. Mr. Johnson determined to watch the case. In three weeks time the tumour had slightly increased in size; was more tender upon pressure; and the sensation of fluctuation beneath the skin, though somewhat more distinct, was yet very obscure. Mr. Johnson thought it might be a deep-seated abscess, and plunged a grooved needle through the substance of the breast; subsequently a lancet was thrust in, and a large quantity of pus flowed out, revealing an abscess in the loose cellular texture, between the mammary gland and the pectoral muscle. A piece of lint was introduced into the wound, and the orifice kept patent, by the uniting edges being occasionally forcibly torn asunder; a method which is a valuable one to employ in cases such as this, as in time a mucous membrane is formed, which lines the aperture, and it becomes eventually fistulous. She took tonics, sarsaparilla, cinchona, nitric acid, &c.

Mr. J. found one aperture insufficient to evacuate the abscess thoroughly, and was under the necessity of making another and a dependent counter opening. The aperture remained patent for some months, then closed. After the wound had cicatrised, it presented the appearance of a depressed scar, showing that the mamma was morbidly adherent to the deeper-seated structures.

Sir Benjamin Brodie has related a similar case, on which the late Sir A. Cooper was consulted. The mamma was extirpated. Another case was detailed by Mr. Kingdon to the London Medical Society, but the termination of that case was unfortunate.

We would observe that, when the case came under our notice, it certainly did feel very like scirrhus. The woman was thin, and the gland of the breast was expanded over the cyst of the abscess, and presented a hard, nodulated texture, which might very readily have imposed upon the surgeon.

The case is not an uninteresting one.

OPENING MAMMARY ABSCESSES AND BUBOES BY SETON. By Mr. HENRY JAMES JOHNSON.

Mr. Johnson made some remarks on this subject to the Society. If there were suppuration in either mammary gland during lactation, the abscess might attain to a very large size before it would come near enough to the surface to present. In such cases one puncture was generally insufficient to evacuate the whole of the matter; or the opening must be a very large one, which, when closed, would form a large and unsightly scar: or many small punctures might be required, which would put the patient to great pain and distress: or lastly, a seton might be used. Of course if the abscess were small, or if there were two abscesses, or more, separated by a large amount of healthy glandular structure, it would be useless, or worse to employ the seton. But a large abscess, or two or more

contiguous small ones are adapted for it. In using the seton in these cases, he generally proceeded in the following manner:—He made slight pressure over the abscess, to ascertain the lowest depending part of it, and at this point made a moderate incision. Through this he introduced an eyed-probe, armed with a strip of lint, or any thing of that sort. The probe was then directed to the opposite border of the abscess, through which the lint would be drawn, and subsequently left in it. By this means the abscess is completely evacuated of its contents, and it ultimately, with proper management, fills up.

We are convinced that we have occasionally in this way prevented the necessity for numerous openings in the mamma, and saved the patient from pain, and a tedious succession of abscesses.

A similar plan of treatment applies to some cases of bubo.

CASE OF FATAL HÆMORRHAGE FROM THE EXTRACTION OF A TOOTH. By DAVID HAY, M. D.*

The following is another addition to the remarkable cases of this sort already upon record.

A gentlemen, aged 31, on Sunday the 19th of December, suffering extreme pain from toothache, had the *dens sapientiæ* of the right side extracted. The tooth was loose and decayed, and was removed by the dentist, Dr. Roberts, with the forceps without difficulty. His mouth was instantly filled with blood; and the blood continuing, pressure was applied after touching the socket with camphorated spirit, and afterwards with oleum terebinthinæ.

In the evening, the bleeding increasing, Dr. Roberts first applied lunar caustic, and then very firm pressure. At 9, A. M, next morning, the bleeding continuing, Dr. Hay removed the compress, and examined the gum and socket carefully. The caustic had blackened the parts so much, that it was impossible for a time to discover the exact point from which the blood issued. At length he observed a stream from the inside of the gum next the cheek, and to this point he applied the actual cautery with effect;—a firm compress of lint was placed on the parts. He had also a saturated solution of acetate of lead, to make use of in case of bleeding. In the course of the day, the hemorrhage returned, and Dr. Roberts again applied the cautery, pressing it into the socket of the anterior fang of the tooth, from which he discovered the blood to be discharged immediately after its removal. In the evening the bleeding had moderated; and, as the acetate of lead appeared to have no particular power in checking it, the alum wash and cold applications were made use of in preference.

The bleeding went on more or less during the 22nd and 23d. He took frequent doses of the pulv. sulph. alum comp. with sulphuric acid, and occasional doses of the acidulated solution of sulphate of magnesia. The cold applications were continued, and pressure made by means of compressed sponge, till the evening, when Dr. Roberts inserted a portion of sponge tent into the socket of the tooth.

On the 24th, notwithstanding the sponge tent and compression, the oozing continued; and his lips having become blanched and his pulse small and frequent, it was evident that he was in a very perilous state. Mr. Nasmyth now visited him at 2 P. M. He did not think it advisable to remove the sponge tent, but rather to keep up a moderate degree of pressure over it by means of lint, and as the styptic powders nauseated, that they should be continued.

On the 25th, there was less bleeding, though the saliva which ran from his

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* London and Edinburgh Monthly Journal. March, 1842.

mouth was reddened. The 26th and 27th he remained nearly in the same state, there being a greater disposition to bleed at night, which prevented him going to bed, and induced him to remain on a sofa in a half erect posture. The sponge tent became raised, and as it was producing no benefit, it was removed. A portion of the skin of the lip, which had been accidentally touched when the cautery was applied, evinced the hæmorrhagic tendency, as it continued oozing blood for several days. The sloughs produced by the cautery and caustic now were gradually thrown off, and on Wednesday the 29th there was nearly a cessation of bleeding.

His strength was much exhausted—his surface pale and lips blanched—his pulse frequent, from 100 to 110, feeble and compressible. He took the saccharine carbonate of iron in frequent doses, with sulphuric acid, and afterwards with nitred acid.

On the 30th, he complained of pain of the face and gums, which were swollen and spongy; the gums again began to bleed from various points both of the upper and under jaw. The slough was completely detached from the original site of the bleeding, and the alveolar process was felt bare with the appearance of threatened exfoliation. Camphorated spirits and oil of turpentine were occasionally applied to these spots; and the tincture of kino in water, chloride of sodium, bark and alum washes to the mouth frequently.

On the 2d and 3d of January, the spongy condition of the gums continued to increase, and near the points from which the tooth had been extracted the gum became very broad and flattened. His strength declined visibly. He tried lemon-juice, substituted Battley's solution of yellow bark for the iron, had wine, at first in moderate quantity, and afterwards in fuller measure, with animal broths, calf's foot jelly, eggs, &c.

On the morning of the 8th, he fainted when rising from the sofa, on which he still preferred remaining to being in bed; he complained also of dimness and indistinctness of vision. A solution of nitrate of silver (30 grs. to ℥j. of water) had been used to check the oozing from the gums from the 4th to the 6th; when Mr. Nasmyth substituted the acid solution of the nitrate of mercury, which appeared to be more powerful in arresting the bleeding, and occasioning the gums to contract and become paler.

Dr. Abercrombie visited him on the 9th, recommended his washing the mouth frequently with a strong solution of sulphate of zinc, and touching the gums twice or thrice a day with pyroligneous acid, continuing the same means of holding up his strength, and augmenting his wine.

On the 10th, part of a slough was detached from the gum. At 4, P. M., there came on subsultus, &c., and at 4, A. M. of the 11th, the 22d day after the extirpation of the tooth, the patient died.

This gentleman had enjoyed very good health, and was in fuller condition than usual when his tooth was drawn. Four years previously he had a tooth extracted, when bleeding to a troublesome extent took place, but which was stopped by the application of caustic. In justice to Dr. Roberts it is proper to mention, that he was not informed of this circumstance, when he was called on to remove the *dens sapientiæ*.

ABSTRACT OF A PAPER ON OPIUM-SMOKIKG IN CHINA. By G. H. SMITH. Esq. Surgeon in Penang. Communicated to Dr. JOHNSON by the Author.

Mode of preparing the Opium for smoking. Causes of the Prevalence of the Habit. Mode of Smoking. Description of a Smoking-shop. Effects of the Opium on the Smoker. Influence of the Habit on the Health, Vigour, and Conformation of the Chinese. Note by Dr. Johnson.

The great extent to which this destructive vice is carried on in this island, and in the straits and islands adjacent, together with the almost utter impossibility of

relinquishing the dreadful habit, when once acquired, opens an immense source of revenue to the East India Company, who monopolise the sale of all quantities of opium under a chest, as well as that of arrack, seree, toddy, bang, &c. The annual average revenue of this monopoly, or "REVENUE-FARMS," as they are called, for ten years past, has amounted to 4822*l.* sterling. But the quantity of opium smuggled is immense and incalculable. Benares opium is that chiefly used by the farmer for the preparation of "chandoo" (the composition smoked), on account of its weight and cheapness; but the consumers prefer the Patna opium, because it has a finer flavour, is stronger, and its effects more lasting.

The following is part of the mode of preparing the chandoo. Two balls are as much as one man can properly prepare at once. The soft inside part of the opium-ball is scooped out, and the rind is boiled in soft water, and strained through a piece of calico. The liquor is evaporated in a wide vessel, and all impurities carefully skimmed off, as they rise to the surface. The same process is gone through with the soft opium extracted from the ball; and all being mixed and evaporated to the consistence of dough, it is spread out into thin plates, and when cold, it is cut into a number of long narrow slips. These are again reduced to powder, re-dissolved, again evaporated, and ultimately rolled up into balls, and a good deal resemble shoemaker's wax. In this state it is fit for smoking, and is at least twice the strength of crude opium. The CHANDOO, when once smoked, does not entirely lose its powers, but is collected from the head of the pipe, and is then called "TYE-CHANDOO," or fæcal opium, which is made into pills, and swallowed by those whose poverty prevents them from smoking the CHANDOO itself.

In Penang, the opium-smokers are the Chinese, the Malays, and a very few of other nations, chiefly the native Portuguese. It is calculated that 10 per cent. of the Chinese, 2½ of the Malays, and about 1 per cent. of other natives, are addicted to the vice of opium-smoking. The poorer classes smoke in the shops erected for that purpose, but the wealthier orders smoke privately in their own houses. The practice is almost entirely confined to the male sex, a few abandoned prostitutes of the other sex partaking of the vice. A young beginner will not be able to smoke more than five or six grains of CHANDOO, while the old practitioners will consume 290 grains daily!!

The causes which lead to this dreadful habit among the Chinese are,—First their remarkably social and luxurious disposition. In China, every person in easy circumstances has a saloon in his house, elegantly fitted up, to receive his friends, with pipes, chandoo, &c. All are invited to smoke, and many are thus induced to commence the practice from curiosity or politeness, though few of them are ever able to discontinue the vice afterwards.

Parents are in the habit of granting this indulgence to their children, apparently to prevent them from running into other vices still more detestable, and to which the Chinese are more prone than, perhaps, any people on earth. There is another cause which leads great numbers of young men into the practice of opium-smoking, a belief, founded, it is said, on experience, that the said practice heightens and prolongs venereal pleasures. It is, however, admitted by all, that opium-smokers become impotent at a much earlier period of life than others. In painful or incurable diseases, in all kinds of mental or corporeal sufferings, in mercantile misfortunes, and in other reverses of fortune, the opium-shop is resorted to as an asylum where, for a time at least, the unfortunate may drown the recollection of his cares and troubles in an indescribably pleasurable feeling of indifference to all around. The Malays are confident that opium-smoking inspires them with preternatural courage and bodily strength; it is, therefore, resorted to whenever any desperate act is in contemplation.

The smoking-shops are the most miserable and wretched places imaginable: they are kept open from six in the morning till ten o'clock at night, each being furnished with from four to eight bedsteads, constructed of bamboo-spars, and *covered with* dirty mats and rattans. At the head of each there is placed a

narrow wooden stool, which serves as a pillow or bolster; and in the centre of each shop there is a small lamp, which, while serving to light the pipes, diffuses a cheerless light through the gloomy abode of vice and misery. On an old table are placed a few cups and a tea-kettle, together with a jug of water, for the use of the smokers. At one side of the door the sub-farmer, or cabaret-keeper, sits, with shandoo, pipes, &c., for the accommodation of his customers. The place is filled with the smoke of the chandoo, and with a variety of other vapours, most intolerable to the olfactories of an European. The pipe, as may be seen, is composed of a shank and a head-piece, the former made of hard and heavy wood, fourteen inches long by three inches and a half in circumference. It is bored through the centre, from the mouth-piece to the head, where there is a kind of cup to collect the "TYE-CHANDOO."

The smokers generally go in pairs, and recline on the bedstead, with head resting it on the wooden stool. The mode of proceeding is as follows:—First, one of the pair takes up a piece of chandoo on the point of a short iron needle, and lighting it at the lamp, applies it to the small aperture (resembling the touch-hole of a gun), in the head of the pipe. After a few whiffs he hands the pipe to his friend, who lights another piece of chandoo at the lamp; and thus they go on alternately smoking till they have had sufficient, or until they are unable to purchase any more of the intoxicating drug. The fume is always expelled through the nose, and old stagers even draw it into their lungs before it is expired.

During this time, they are at first loquacious, and the conversation highly animated; but, as the opium takes effect, the conversation droops, and they frequently burst out into loud laughter, from the most trifling causes, or without any apparent cause at all, unless it be from the train of thoughts passing through their excited imaginations. The next phase presents a vacancy of countenance, with pallor, and shrinking of the features, so that they resemble people convalescing from a fever. A dead silence precedes a deep sleep, which continues from half an hour to three or four hours. In this state the pulse becomes much slower, softer, and smaller than before the debauch. Such is the general process almost invariably observed among the Chinese; but with the Malays it is often very different. Instead of the placidity that ushers in the profound sleep, the Malays frequently become outrageously violent and quarrelsome, and lives are occasionlly lost in these frightful orgies!

The CHANDOO is sometimes employed for the purpose of self-destruction; but from its strong smell and taste, it is never used as poison for others. It does not appear that sudden death is ever produced by an overdose of chandoo when used in smoking. When an inordinate quantity has been expended in this way, headach, vertigo, and nausea are the effects, and are only relieved by vomiting.

When a person has once contracted the habit of opium-smoking, he finds it extremely difficult to discontinue the vice; yet there are many instances of its being conquered by resolution of mind. In such attempts it is most dangerous to approach the opium-shops, as the smell of the chandoo produces an irresistible desire to indulge once more in the pernicious habit; neither can opium-smoking be suddenly abandoned without some substitute, as the most serious or even fatal consequences would ensue. The best substitute is a tincture of the "TYE-CHANDOO" (which is about one-fourth the strength of the "CHANDOO" itself), made with SAMSOO, a spirit made from rice, and taken in gradually diminished doses, till the habit is broken.

By a continuance in this destructive practice, the physical constitution and the moral character of the individual are deteriorated or destroyed, especially among the lower classes, who are impelled to the commission of crimes, in order to obtain the means of indulging in their dominant vice.

The hospitals and poor houses are chiefly filled with opium-smokers. In one that I had charge of the inmates averaged sixty daily, five-sixths of whom were smokers of chandoo. The baneful effects of this habit on the human constitution are conspicuously displayed by stupor, forgetfulness, general deterioratic

of all the mental faculties, emaciation, debility, sallow complexion, lividity of lips and eyelids, languor and lack-lustre of eye, appetite either destroyed or depraved, sweetmeats or sugar-cane being the articles that are most relished. In the morning these creatures have a most wretched appearance, evincing no symptoms of being refreshed or invigorated by sleep, however profound. There is a remarkable dryness or burning in the throat, which urges them to repeat the opium-smoking. If the dose be not taken at the usual time, there is great prostration, vertigo, torpor, discharge of water from the eyes, and in some an involuntary discharge of semen, even when wide awake. If the privation be complete, a still more formidable train of phenomena take place. Coldness is felt over the whole body, with aching pains in all parts. Diarrhœa occurs—the most horrid feelings of wretchedness come on; and if the poison be withheld, death terminates the victim's existence.

It is generally remarked, as might, *à priori*, be expected, that the offspring of opium-smokers are weak, stunted, and decrepit. It does not appear, however, that the Chinese, in easy circumstances, and who have the comforts of life about them are materially affected, in respect to longevity, by the private addiction to this vice, so destructive to those who live in poverty and distress. There are many persons within the sphere of my own observation, who have attained the age of sixty, seventy, and more, and who are well known as habitual opium-smokers for more than thirty years past. It is a well-known fact, that the present Emperor of China was a slave to the pernicious habit of smoking opium for many years; but that, by great moral courage and perseverance, he weaned himself from the vice, and has ever since become a most violent persecutor of those who are addicted to the indulgence. He accordingly issued edicts of severe punishment against the smoker, vendor, importer, and all concerned in the traffic of opium; and, finding these ineffectual, he made the crime capital, and punished it with death. Whatever may be said in favour of the opium traders, and against the policy or justice of the Chinese emperor, I am convinced in my own mind that the real object of his edicts was the good of his subjects, and that he hoped, however vainly, to eradicate a vice destructive alike of the health and morality of those who become its victims. But his Majesty's government acted on very different principles; namely, the most selfish, venal, and mercenary. It is a notorious fact, that many, perhaps most of the officers, employed in preventing the importation and smuggling of opium, are themselves opium-eaters, or opium-smokers, and consequently that they wink at the illicit trade, or take bribes of opium or dollars for the introduction of the drug. It is well known now, that in several of the southern provinces of China, opium is cultivated to a great extent, without any check from the local authorities, and, doubtless, without any knowledge of the emperor himself. The propensity to opium-smoking is becoming so universal and so irresistible in China, that no sumptuary laws, however sanguinary, will be able to stem the torrent. In Penang excessive duties have only increased the thirst for opium: and what is worse, they have quadrupled the number of murders and other crimes committed in order to obtain the means of procuring the drug!!

Pulo Penang, Straits of Malacca.

NOTE BY DR. JOHNSON.

The foregoing paper has been laid before the society, partly because the subject is curious, and little known in this country, but chiefly for the purpose of offering one or two practical suggestions to the members.

First, I think it will be admitted that the Chinese mode of taking opium by smoking or inhalation, induces the peculiar sedative effects of that drug more powerfully and more speedily than when taken into the stomach.

Second, There can, I believe, be little doubt, that these effects are produced *chiefly, if not* entirely through the medium of the nervous system, aud not by di*gestion, absorption*, and the circulation.

Third, it does not appear that the casual or temporary smoking of opium is more dangerous or injurious to the constitution than that of swallowing the drug, whether in substance or solution. On the contrary, I believe it is less so, and not so likely to impair the functions of the stomach, liver, and bowels, as when directly applied to the digestive apparatus.

Fourth, The *habitual abuse* of a drug, by which, in fact, it is converted into a poison, is no argument or reason against its occasional exhibition as a remedial agent.

Fifth, If the above observations be admitted as rational, I see no reason why we should not employ the Chinese mode of inhaling the fumes of opium, in certain dangerous and painful maladies where the common mode is found to be inefficient, and attended with great derangement of the digestive organs. It is clear that we can very seldom induce that profound sleep and insensibility to all mental misery and corporeal pain, by opium taken into the stomach, which we find to be produced by the inhalation of its fumes acting directly on the brain, through the medium of the nerves. Might not the Chinese mode, then, be adopted in tetanus, hydrophobia, tic-douloureux (especially of the facial nerves), violent spasms, and painful diseases that defy the power of opium taken in the common way?

The various preparations of opium might be easily smoked by means of a common pipe, and the powerful effects induced in a very short space of time, without the possibility of their being rejected by the stomach, or prevented from acting energetically on the sensorium, and throughout the whole nervous system.

A SUGGESTION FOR THE CURE OF CHOLERA. By Lieut. H. CONGREVE, Madras Artillery. Richardson, London.

The disease which, ten years ago, frightened this Isle from its propriety, is now as seldom thought of as the Spanish Armada, or the Norman Conquest. Yet, like Sir R. Peel's bad harvests, it may come again—in cycles—and then all the old remedies, that proved no remedies at all, will be furnished up, and perhaps the "Suggestion" of Lieutenant Congreve may have its day of trial. Our author's theory—for it is no more—may be briefly stated. He considers that cholera "is propagated by the transmission of the poisoned air from the lungs of the person who has inhaled the noxious gas, to another individual, who, in like manner, disseminates the distemper by infecting the atmosphere which those he comes in contact with may breathe." To this he adds, that "the poison exhaled from a diseased person may remain suspended in the air for a considerable space of time, and still be productive of fatal results to those who subsequently inhale it."

We need not say how totally inadequate this hypothesis is to explain the *propagation* of cholera. Of the *nature* of the poisonous gas, Mr. Congreve does not pretend to judge; but he "hazards the opinion that it usurps the place of oxygen in its combination with nitrogen to form the air." The remedy naturally flows from the supposed cause—it is the inhalation of oxide of nitrogen—which has the "singular effect of producing a high degree of excitement, after a few inspirations." An oil-silk bag, capable of containing several quarts, is necessary. If this cannot be procured, a large bladder may be employed. But the gas is not so easily obtained on the spur of the moment, and in the midst of sickness and terror.

We think we have heard of this proposal before, but cannot say where.* We

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* Since writing the above, we hear that Mr. Martin, of Calcutta, exhibited oxygen gas in 1827, to a patient labouring under cholera, in the last stage of collapse—with remarkable good effects for half an hour; but from want

shall therefore give Mr. Congreve the credit of priority. We wish sincerely that oxygen gas may be found a cure for cholera; but as yet there is no proof. It is, as the title-page of the pamphlet denominates it—a "SUGGESTION."

OBSERVATIONS ON THE MINERAL SPRINGS OF HARROGATE. By Dr. BENNETT.

This small brochure has accidentally fallen into our hands. It is the first of a series on the same subject. In this, Dr. B. has merely examined the temperature and the solid contents of four of the Harrogate Springs, during the different months of the year—from 14th April, 1841, till the 2d of March, 1842. From these tables it appears, that both the temperature and the aggregate of solid contents vary considerably at different times of the year. Thus the Old Sulphur Well varied from 53° down to 40°—the highest temperature being in September, when the atmosphere was 62°—and the lowest 40° in February, the air being 43°.

It is therefore evident that the temperature of the water corresponded pretty much with that of the air, and consequently that the sources were at no great distance from the surface.

In respect to the aggregate solid contents of the Old Well, it varied from 54 grains (in eight ounces) in the month of April, down to 45 in the month of October. This variation was probably owing to the prevalence of rains or droughts.

Dr. Bennett and others have observed that, where the sulphur waters were heated, they sometimes acquired a greenish or rather yellowish hue. This was attributed to the stone jars in which the waters were heated. This is proved to be erroneous—for Dr. Bennett found that water heated in glass vessels assumed the same hue at times. Dr. B. attributes the yellow hue to *lime* in the water, which is sometimes more—sometimes less copious. He thinks the phenomena should be obviated by a suitable apparatus, in which the water may be heated to 85 or 95 degrees, where the cold water cannot be borne.

We shall look, with interest, to the further pursuit of Dr. B.'s investigations—more especially those which relate to the medicinal agency of the Harrogate waters.

One of the greatest recommendations—perhaps virtues, of the cold continental mineral waters, is their large impregnation of carbonic acid gas, which makes many of them as brisk as Champaigne, and, consequently, very agreeable to the palate. In the case of chalybeates—perhaps in all the saline springs, also, the said carbonic acid dissolves the iron more completely, and renders it more efficacious than when diffused in flat and insipid waters. Thus the springs of Spa, Schwalbach, Bruchenau, Franzensbad, and of many other places on the continent, present a contrast, in respect to carbonic acid gas, with Tunbridge Wells, or other chalybeate waters in this country. The idea, therefore, of impregnating the native chalybeate waters of England with carbonic acid, is a good one—and has been commenced (under the direction of Dr. Bennett, we believe), at Harrogate. The Tewitt Spring there, a very good chalybeate, has been selected for the process of aeration, and Mr. Clayton, chemist, of Upper Harrogate, has sent us some bottles of the aerated water, which is as brisk as soda water, and reminds us of the Weinbrunnen, the Bruckenau, and the Franzenquelle. We think the process might be advantageously applied to some of the other saline waters at Harrogate, by which their taste, and perhaps their medicinal agency might be considerably improved.

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proper apparatus, was unable to continue the experiment. See Influence of *Tropical Climates*, &c. 6th edition, 353. By Dr. Johnson, and Mr. Martin.

A PENTAGLOT DICTIONARY OF THE TERMS EMPLOYED IN ANATOMY, PHYSIOLOGY, PATHOLOGY, PRACTICAL MEDICINE, &c. &c. &c. In Two Parts. Part I. With the leading Term in French, followed by the Synonymes in the Greek, Latin, German, and English, &c. &c. Part II. A German-English-French Dictionary, &c. &c. By SHIRLEY PALMER, M.D. 8vo. pp. 656, in double columns, small type. Longman & Co. 1841.

In this stupendous work we scarcely know which to admire most—the extensive erudition, or the unwearied, we might say super-human, labour of its author! Dr. Palmer may well exclaim with the Roman bard—

"Exege monumentum Ære Perennius."

Johnson's Great Dictionary in four volumes cost not one-tenth the pains and research that Dr. P.'s Pentaglot must have done. Dr. Palmer will not be rewarded during his life time for the labour he has undergone, and the wear and tear of mind and body which he must have experienced in the construction of a book that might well be considered a hard task for a long life of literary drudgery in the study, free from every other avocation or pursuit. What then must have been the destructive toil by the midnight lamp, stolen from rest and sleep, during the compilation of this immense cyclopœdia of dry technical terms, definitions, and derivations?

Any analysis, or even the most superficial review of such a performance would be preposterous. The only thing we can do is to take a specimen at random—a brick out of a majestic piece of architecture.

"ANEVRYSME, ANEURYSME, s. m.,—ἀνεύρυσμα (ἀνευρύνω, I dilate,)—aneurisma, aneurysma, n. L.,—aneurisma, anevrysma, n., Pulsadergeschwullst, f., die Erweiterung einer Arterie, G.,—aneurism, swelling, dilatation of an artery. Aneurism may be defined, a tumour, formed by arterial blood, from dilatation, rupture, or division, of the coats of an artery. The term has been also applied by some writers, to dilatation of the cavities of the heart, and even to enlargement of the organ from thickening of its parietes.

Aneurism shews itself under three different forms: 1. that of *true* aneurism, —*vrai*, F.,—aneurysma *verum*, L.,—das *wahre* Anevrysma, G.,—formed by dilatation, circumscribed or diffused, without breach, of all the coats of an artery. In the *former* case, it constitutes the variety called *circumscribed*,—circonscrit,—circumscriptum,—umschriebene;—in the *latter*, the *diffused*—diffus,—diffusum, ausgebreitete,—of *true* aneurism: 2. *false* or *spurious*,—*faux*,—*spurium*, das *falsche* Anevrysma, formed by a breach of two or all of the arterial tunics, and presenting two varieties: the *circumscribed*, in which the blood escaping through a rupture of the internal and middle coats, converts the external coat of the vessel into an aneurismal sac;—and the *diffused*,—where the external coat, also, has subsequently given way, and the blood been poured out into the surrounding cellular structure: 3. *mixed* aneurism,—*mixte*,—*mistum*,—das *gemischte*—which likewise comprehends two varieties; one, the *internal*, consisting of an hernia-like protrusion of the internal, through a wound or rupture of the middle and external coats of an artery; and the other, *external*, produced by rupture of the dilated coats of true aneurism, and consequent diffusion of its contents through the circumjacent membrane.

Besides these principal forms, there is *Aneurism by Anastomsis*,—anévrysme par anastomose, F.,—das anastomotische anevrysma, G.,—apparently caused by aneurismal dilatation of the extreme vessels of a part, and extravasation of blood into the distended cells of the cellular structure."

We need hardly say that a work like this, which costs but a trifle, though the result of years of labour, should be in the hands of every student and practitioner who wishes to keep pace with the current of medical literature, and glean knowledge from foreign as well as domestic sources.

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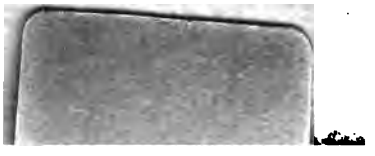
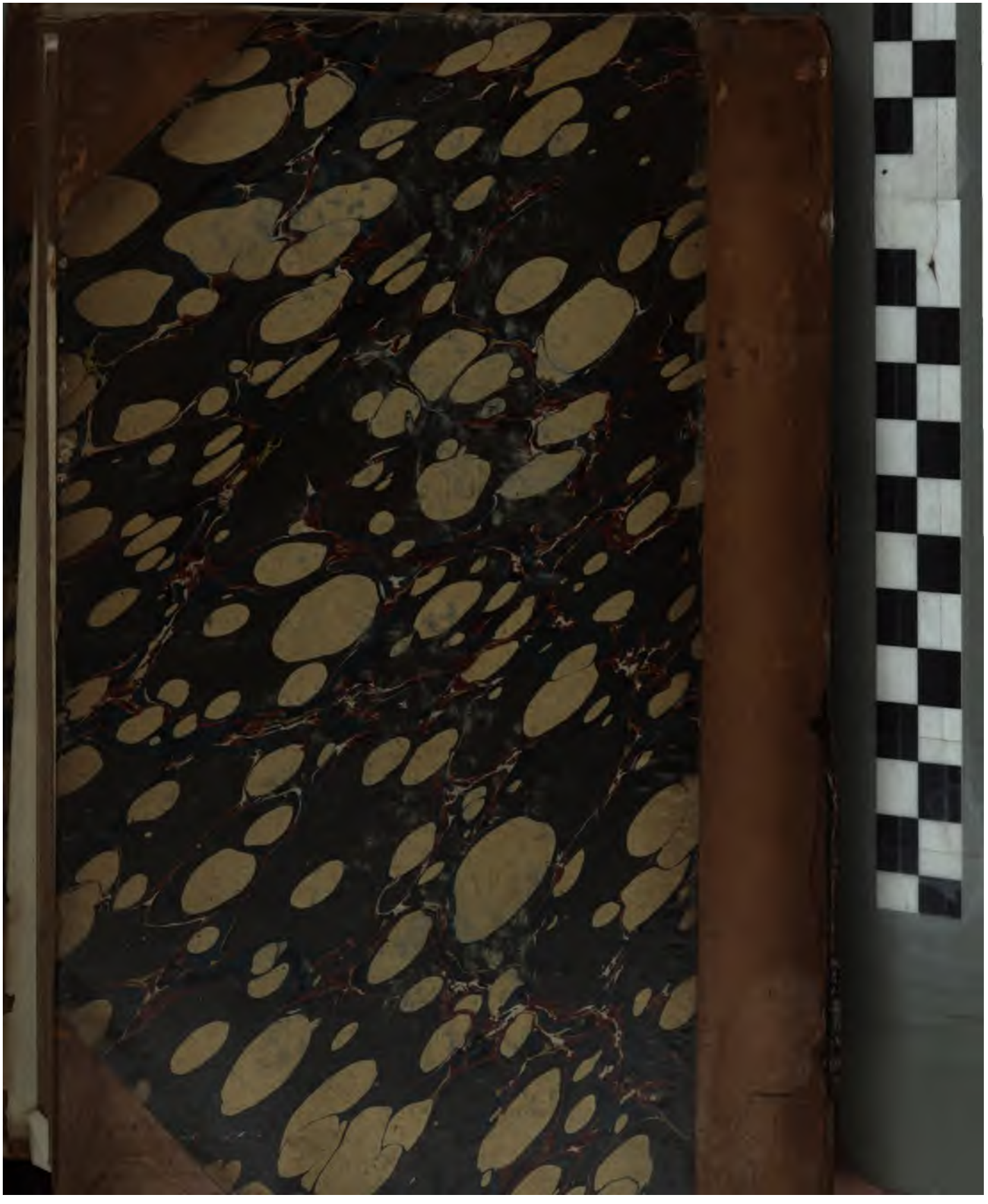
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